

# JOB PERFORMANCE MEASURE

**JPM TITLE:** Startup RCIC for injection, HV2406 Governor Speed Control Logic Failure (AP)

**JPM NUMBER:** 217000-20 **REV.** 0

**TASK NUMBER(S) / TASK TITLE(S):** 3.05/  
Perform Rapid Start for EOP Use

**K/A NUMBERS:** 217000 A2.02 **K/A VALUE:** 3.8 / 3.7

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☐ Non-Lic ☒ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐  
Simulator: ☒ Other: ☐  
Lab: ☐

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path [NRC]: YES

Alternate Path [INPO]: YES

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE

[illegible]

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

**SIMULATOR SETUP INSTRUCTIONS:**

1. JPM can be ran with an IC which has reactor pressure greater than 500 psig

**SIMULATOR MALFUNCTIONS:** See schedule file

**SIMULATOR OVERRIDES:** See schedule file

**SIMULATOR REMOTE FUNCTIONS:** NONE

**SIMULATOR SCHEDULE FILE(s):**

At Time	On Event	Action	Description
00:00:00	None	Insert Malfunction RC20	(SAMP703) RCIC GOVERNOR LEVER FAIL OPEN HV2406
00:00:00	None	Insert Malfunction STRC01	TRIP OVRD- RCIC FAILS TO AUTO START
00:00:00	None	Insert Malfunction an1c04c(4)	1C04C (A-04) RCIC AUTO INITIATED
00:00:00	None	Insert override DO-RC-041 to ON	HS-2482 RCIC INITIATION RESET (A)

**Required Materials:**

- OI 150 QRC 1, RCIC Rapid Start
- ARP 1C04C (A-5), RCIC MO-2405 TURBINE TRIP
- OI 150 QRC 1, RCIC Rapid Start, Rev. 4
- ARP 1C04C (A-5), RCIC MO-2405 TURBINE TRIP, Rev. 53

**General References:**

**Task Standards:**

When directed to manually align the RCIC system for RPV injection and presented with a failure of the governor control logic to MO2406, the Operator will throttle MO2405 in accordance with ARP 1C04A (A-5), RCIC MO-2405 Turbine Trip, for RPV injection.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

**INITIAL CONDITIONS:**

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

- RCIC has an automatic initiation signal and has failed to automatically inject
- RCIC is required for immediate injection due to plant conditions
- HPCI is unavailable for injection
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**INITIATING CUES (IF APPLICABLE):**

- The Control Room Supervisor has directed you to use OI 150 QRC 1, RCIC Rapid Start, to inject into the RPV with RCIC

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

### JPM PERFORMANCE INFORMATION

**Start Time:** \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance step:</b> <b>OI 150 QRC 1, (1)</b> <b>Critical: N</b>	If desired to operate RCIC in the CST to CST mode: (a) Open MO-2316, Redundant Shutoff Valve (b) Open MO-2515, RCIC Test Bypass Valve, to 44-46% open
<b>Standard:</b>	Operator will placekeep these steps using “N/A”
<b>Evaluator Cue:</b>	Provide the candidate the printed copy of OI 150 QRC 1, RCIC RAPID START
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 150 QRC 1, (2)</b> <b>Critical: N</b>	Verify MO-2511, RCIC Pump Discharge Valve, is open
<b>Standard:</b>	Operator will verify MO-2511, RCIC Pump Discharge Valve, is open
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance step:</b> OI 150 QRC 1, (3) Critical: N	Open MO-2426, RCIC Lube Oil Cooler Supply Valve
<b>Standard:</b>	Operator will open MO-2426, RCIC Lube Oil Cooler Supply Valve
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> OI 150 QRC 1, (4) Critical: N	Start 1P-227, RCIC Vacuum Pump
<b>Standard:</b>	Operator will start 1P-227, RCIC Vacuum Pump
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> OI 150 QRC 1, (5) Critical: N	If RCIC was previously tripped manually, perform the following: (a) Close MO-2405 Turbine Stop Valve Motor Control (b) Place & Hold HS-2405 in the open position until full open
<b>Standard:</b>	Operator will placekeep these steps using "N/A"
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 150 QRC 1, (6)</b> <b>Critical: Y</b>	Place MO-2404 handswitch in the open position and verify it is opening
<b>Standard:</b>	<b>Operator will place MO-2404 handswitch in the open position and verify it is opening</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 150 QRC 1, (7)</b> <b>Critical: N</b>	For RPV injection, immediately open MO-2512, RCIC Inject Valve
<b>Standard:</b>	<b>Operator will immediately open MO-2512, RCIC Inject Valve</b>
<b>Evaluator Note:</b>	<p><b>[ALTERNATE PATH BEGINS WHEN THE OPERATOR RESPONDS TO THE RCIC MO-2405 TURBINE TRIP]</b></p> <p>RCIC will experience an electrical overspeed due to the failure of the RCIC governor control logic to control HV-2406.</p> <p>As a result of the electrical Overspeed MO-2405 will close rapidly.</p>
<b>Evaluator Cue:</b>	<b>When the Operator references to ARP 1C04C (A-5), provide the candidate ARP 1C04C (A-5), RCIC MO-2405 Turbine Trip, annunciator response handout</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	



<b>Performance step:</b> <b>ARP 1C04C(A-5), 3.1</b> <b>Critical: N</b>	Determine the cause of RCIC Turbine trip by: a. Monitoring RCIC coincident alarms at 1C04 b. Monitoring RCIC relays at 1C30
<b>Standard:</b>	Operator will determine that RCIC has oversped
<b>Evaluator Cue:</b>	If the Operator investigates the relays at 1C30, CUE the following: <ul style="list-style-type: none"> <li>• E51A-K2 is energized</li> <li>• E51A-K3 is energized</li> <li>• E51A-K5 is energized</li> <li>• All other relays are de-energized</li> </ul>
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> <b>ARP 1C04C(A-5), 3.2</b> <b>Critical: N</b>	If a RCIC initiation signal is present with a failure of the governor speed control logic system, and immediate RCIC injection is desired, perform the following:
<b>Standard:</b>	Operator will placekeep this step.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> <b>ARP 1C04C(A-5), 3.2,</b> <b>NOTE</b> <b>Critical: N</b>	<b><u>NOTE</u></b> IF HV-2406, RCIC Turbine Steam Inlet Governor Valve does NOT attempt to control RCIC speed, THEN this may be indicative of a failure of the governor speed control logic system.
<b>Standard:</b>	Operator will placekeep the NOTE.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> <b>ARP 1C04C(A-5), 3.2, a.</b> <b>Critical: Y</b>	Place and hold HS-2405 TURBINE STOP VALVE MOTOR CONTROL MO-2405 in CLOSE until the Motor Control indicates full closed
<b>Standard:</b>	Operator will place and hold HS-2405 TURBINE STOP VALVE MOTOR CONTROL MO-2405 in CLOSE until the Motor Control indicates full closed
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance step:</b> <b>ARP 1C04C(A-5), 3.2, b.</b> <b>Critical: Y</b>	Throttle OPEN MO-2405 using HS-2405 TURBINE STOP VALVE MOTOR CONTROL MO-2405 until RCIC pump discharge pressure is greater than reactor pressure
<b>Standard:</b>	Operator will throttle OPEN MO-2405 using HS-2405 TURBINE STOP VALVE MOTOR CONTROL MO-2405 until RCIC pump discharge pressure is greater than reactor pressure
<b>Evaluator Note:</b>	There is a potential for the Operator to overspeed the turbine during the attempted reset.
<b>Evaluator Cue:</b>	If the turbine trips the second time and the operator does not proceed then CUE the Operator that immediate RCIC injection is desired.
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance step:</b> ARP 1C04C(A-5), 3.2, c. <b>Critical: N</b>	Throttle MO-2405 as needed to control RCIC flow rate.
<b>Standard:</b>	Operator will throttle MO-2405 as needed to control RCIC flow rate
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> ARP 1C04C(A-5), 3.2, d. <b>Critical: Y</b>	Verify MO-2512, RCIC Inject Valve OPEN
<b>Standard:</b>	Operator will verify MO-2512, RCIC Inject Valve OPEN
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> ARP 1C04C(A-5), 3.2, e. <b>Critical: N</b>	Mark Steps 3.3 and 3.4 N/A
<b>Standard:</b>	Operator will mark Steps 3.3 and 3.4 N/A
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

**Terminating Cues:**      When RCIC is injecting into the RPV.

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_



217000-20, Startup RCIC for injection, HV2406 Governor Speed  
Control Logic Failure (AP), Rev. 0

**JPM**  
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Examinee: \_\_\_\_\_

Evaluator: \_\_\_\_\_

☐ RO ☐ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT

Date: \_\_\_\_\_

☐ LOIT RO ☐ LOIT SRO

PERFORMANCE RESULTS:

SAT:

UNSAT:

Remediation required:

YES

NO

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

**EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES  
CLEANED, AS APPROPRIATE.**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_

*NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If  
unsatisfactory performance is demonstrated, the entire JPM should be retained.*

## TURNOVER SHEET

### INITIAL CONDITIONS:

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

- RCIC has an automatic initiation signal and has failed to automatically inject
- RCIC is required for immediate injection due to plant conditions
- HPCI is unavailable for injection
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

### INITIATING CUES (IF APPLICABLE):

- The Control Room Supervisor has directed you to use OI 150 QRC 1, RCIC Rapid Start, to inject into the RPV with RCIC

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

# JOB PERFORMANCE MEASURE

**JPM TITLE:** RAPID DEPRESSURIZATION WITH BYPASS

**JPM NUMBER:** 241000-02

**REV.** 5

**TASK NUMBER(S) / TASK TITLE(S):** /  
Rapidly Depressurize the RPV via the Main turbine Bypass Valves

**K/A NUMBERS:** 241000 A3.02 (A4.06) **K/A VALUE:** 3.8/3.8 (3.9/3.9)

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐  
Simulator: ☒ Other: ☐  
Lab: ☐

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path [NRC]: YES

Alternate Path [INPO]: YES

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE

[illegible]



**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*
**SIMULATOR SETUP INSTRUCTIONS:**

1. Verify the "A" EHC pump is running with the "B" EHC pump is in Standby
2. Insert a manual reactor scram and trip the turbine
3. Create the simulator schedule file below and leave the schedule file running

**SIMULATOR MALFUNCTIONS:** NONE

**SIMULATOR OVERRIDES:** NONE

**SIMULATOR REMOTE FUNCTIONS:** NONE

**SIMULATOR SCHEDULE FILE:**

At Time	On Event	Action	Description
00:00:00	None	Insert malfunction stehc01	TRIP OVERRIDE - A EHC PUMP 1P97A FAILS TO AUTO START
00:00:00	None	Insert malfunction stehc02	TRIP OVERRIDE - B EHC PUMP 1P97B FAILS TO AUTO START
None	None	Create Event 12 ZDITCBPVJINCR   ZDITCBPVTSTG -desc SEP 307 Attmpt	
None	12	Insert malfunction TC02A	EHC HYDRAULIC PUMP TRIP- PUMP A

NOTE: EVENT number can be changed at the simulator operator's discretion to align with additional JPMs to avoid any conflict. ENSURE that the EVENT number is aligned with the event for THIS JPM.

**Required Materials:**

- SEP 307, Rapid Depressurization with Bypass Valves
- ARP 1C07A(A-4), EHC Pumps 1P-97A/B Motor Overload

**General References:**

- SEP 307, Rapid Depressurization with Bypass Valves, Rev. 4
- ARP 1C07A(A-4), EHC Pumps 1P-97A/B Motor Overload, Rev. 65

**Task Standards:**

When directed to rapidly depressurize the RPV with the Main Turbine Bypass Valves and expedite the #2 TBV opening, the Operator will use the bypass valve opening jack to maintain BPV-1 and BPV-2 open in accordance with SEP 307

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

**INITIAL CONDITIONS:**

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

- Emergency Depressurization is anticipated due to a steam leak in the Reactor Building
- The reactor is shutdown and RPV level is being maintained with the feedwater system
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**INITIATING CUES (IF APPLICABLE):**

- The Control Room Supervisor directs you to rapidly depressurize the RPV with the Main Turbine Bypass Valves in accordance with SEP 307 and expedite the #2 TBV opening

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

### JPM PERFORMANCE INFORMATION

Start Time: \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance Step:</b> <b>SEP 307, CAUTION</b> <b>Critical: N</b>	<b>CAUTION</b> Subsequent steps reduce RPV pressure below the shutoff head of ECCS pumps which may have a high drywell pressure automatic start signal. Increasing injection flow rates from these pumps when adequate core cooling is already assured may result in complication of level control efforts.
<b>Standard:</b>	<b>Operator will placekeep the CAUTION</b>
<b>Evaluator Cue:</b>	<b>Hand the Operator a printed copy of SEP 307, Rapid Depressurization with Bypass Valves</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>SEP 307, Step 1</b> <b>Critical: N</b>	If a high Drywell pressure ECCS initiation signal exists, prevent injection from Core Spray and RHR Pumps NOT required for adequate core cooling
<b>Standard:</b>	<b>Operator will validate that no high drywell pressure ECCS initiation signal exists.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>SEP 307, Step 2</b> <b>Critical: N</b>	At 1C03, verify that at least one set of MSIVs are open (inboard and outboard valves).
<b>Standard:</b>	<b>Operator will verify that at least one set of MSIVs are open (inboard and outboard valves)</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>SEP 307, Step 3</b> <b>Critical: N</b>	At 1C07, verify that an EHC Pump is running.
<b>Standard:</b>	<b>Operator will verify that an EHC Pump is running</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>SEP 307, NOTE</b> <b>Critical: N</b>	<b><u>NOTE</u></b> The Main Condenser is considered “available” when there is reason to believe that water is still in the condenser tubes (the Circ Water System does NOT have to be in operation) and Condenser integrity is intact.
<b>Standard:</b>	<b>Operator will placekeep the NOTE</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>SEP 307, Step 4</b> <b>Critical: N</b>	At 1C06 and 1C07, determine if the Main Condenser is available. If available, continue with this procedure. If NOT available, inform the CRS.
<b>Standard:</b>	<b>Operator will verify that the main condenser is available.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>SEP 307, NOTE</b> <b>Critical: N</b>	<b><u>NOTE</u></b> Steps (5) and (6) may be performed concurrently to expedite depressurization. The Bypass Valves will close at a condenser backpressure of 22" Hg (abs) unless the valves are in test.
<b>Standard:</b>	<b>Operator will placekeep the NOTE</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>SEP 307, CRS</b> <b>Critical: N</b>	<b>CONTINUOUS RECHECK STATEMENT</b> <b>(through Step (6))</b> <b>IF</b> anticipation of ED is no longer necessary, <b>THEN</b> close bypass valves by lowering the bypass valve jack to zero percent.
<b>Standard:</b>	<b>Operator will placekeep the Continuous Recheck Statement</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>SEP 307, Step 5</b> <b>Critical: Y</b>	At 1C07, depress and hold the BYPASS VALVE OPENING JACK SELECTOR "INCREASE" pushbutton until BPV-1 and BPV-2 are 100% open as indicated on ZI-9017 and ZI-9018.
<b>Standard:</b>	<b>Operator will depress and hold the BYPASS VALVE OPENING JACK SELECTOR "INCREASE" pushbutton</b>
<b>Evaluator Note:</b>	<p style="text-align: center;"><b>[ALTERNATE PATH STARTS HERE]</b></p> <p>This will trip the "A" EHC Pump. The EHC system has accumulators that will allow bypass operation for approximately 40 seconds before both bypass valves will fail closed.</p> <p>The Operator may identify the trip of the "A" EHC Pump and take actions to start "B" EHC Pump when the auto start pressure of 1300 psig is reached.</p>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>SEP 307, Step 6a-d</b> <b>Critical: Y</b>	Then, expedite opening BPV-2 as follows: (a) Depress the BYPASS VALVE TEST “TESTING” pushbutton on the horizontal section of 1C07 (b) Verify that the READY TO SELECT light is ON (c) Depress and hold the SELECT BPV-2 pushbutton until the BYPASS VALVE OPENING JACK indicates 100% open (d) Verify reactor pressure is decreasing
<b>Standard:</b>	<b>Operator will perform the following:</b> (a) Depress the BYPASS VALVE TEST “TESTING” pushbutton on the horizontal section of 1C07 (b) Verify that the READY TO SELECT light is ON (c) Depress and hold the SELECT BPV-2 pushbutton until the BYPASS VALVE OPENING JACK indicates 100% open (d) Verify reactor pressure is decreasing
<b>Evaluator Note:</b>	The CRITICAL STEPS are: (a) Depress the BYPASS VALVE TEST “TESTING” pushbutton on the horizontal section of 1C07  <u><b>AND</b></u>  (c) Depress and hold the SELECT BPV-2 pushbutton until the BYPASS VALVE OPENING JACK indicates 100% open
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance Step:</b> <b>ARP 1C07A(A-4): 3.1</b> <b>Critical: Y</b>	If due to CAUSES 1.1 through 1.4, verify the Standby Pump 1P-97A[B] started or record the operating pump amps <u>then manually</u> start the standby pump with Control Switch EHC PUMP 1P-97A (1P-97B) (HS-3665A[B]).
<b>Standard:</b>	<b>Operator will start the standby pump with Control Switch EHC PUMP 1P-97B, HS-3665B</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

**Terminating Cues:** When BYPASS VALVE OPENING JACK indicates 100% open and both BPV #1 and BPV #2 remain open.

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_



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## TURNOVER SHEET

### INITIAL CONDITIONS:

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

- Emergency Depressurization is anticipated due to a steam leak in the Reactor Building
- The reactor is shutdown and RPV level is being maintained with the feedwater system
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

### INITIATING CUES (IF APPLICABLE):

- The Control Room Supervisor directs you to rapidly depressurize the RPV with the Main Turbine Bypass Valves in accordance with SEP 307 and expedite the #2 TBV opening

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

# JOB PERFORMANCE MEASURE

**JPM TITLE:** Manually Inject into the RPV with Core Spray to Achieve Alternate Shutdown Cooling (AP)

**JPM NUMBER:** 209001-05 **REV.** 3

**TASK NUMBER(S) / TASK TITLE(S):** 4.03 / PERFORM MANUAL INITIATION OF CORE SPRAY

**K/A NUMBERS:** 209001 A4.05 **K/A VALUE:** 3.8 / 3.6

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☐ Non-Lic ☒ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐  
Simulator: ☒ Other: ☐  
Lab: ☐

Time for Completion: 20 Minutes Time Critical: NO

Alternate Path [NRC]: YES

Alternate Path [INPO]: YES

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE

[illegible]

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

**SIMULATOR SETUP INSTRUCTIONS:**

1. Reset to IC 16 and perform the following:
  - a. Close MO-1908, and leave it closed, to trip shutdown cooling
  - b. Verify RWCU blowdown in service at 18 GPM
  - c. Hang tags on the Condensate and Feedwater pump control switches
  - d. Place RHR Loop "A" in Torus Cooling
  - e. Start "A" ESW IN SERVICE
  - f. Start 1V-AC-12, RHR/CS Pump Room Cooling Unit
  - g. Insert simulator triggers, malfunctions, and overrides manually per 209001-05.sch
  - h. If using the schedule file, leave schedule file running

**SIMULATOR MALFUNCTIONS:** See schedule file

**SIMULATOR OVERRIDES:** See schedule file

**SIMULATOR REMOTE FUNCTIONS:** See schedule file

**SIMULATOR SCHEDULE FILE:** (Next page)

**Required Materials:**

- OI 151 QRC 1, Core Spray Rapid Start
- AOP 149, Loss of Decay Heat Removal

**General References:**

- OI 151 QRC 1, Core Spray Rapid Start, Rev. 1
- AOP 149, Loss of Decay Heat Removal, Rev. 47

**Task Standards:**

When directed to establish a Feed and Bleed to the Torus via Safety/Relief Valves using available Core Spray system, the Operator will establish core cooling by operating system components as directed by AOP 149, Loss of Shutdown Cooling.

209001-05.sch			
At Time	On Event	Action	Description
00:00:00	None	Create Event 1 ADVPRLF(1) >= 0.2 -desc PSV 4400 valve position open 20%	
00:00:00	None	Create Event 2 ADVPRLF(2) >= 0.2 -desc PSV 4401 valve position open 20%	
00:00:00	None	Create Event 3 ADVPRLF(3) >= 0.2 -desc PSV 4402 valve position open 20%	
00:00:00	None	Create Event 4 ADVPRLF(4) >= 0.2 -desc PSV 4405 valve position open 20%	
00:00:00	None	Create Event 5 ADVPRLF(5) >= 0.2 -desc PSV 4406 valve position open 20%	
00:00:00	None	Create Event 6 ADVPRLF(6) >= 0.2 -desc PSV 4407 valve position open 20%	
00:00:01	None	Insert Malfunction AN1C06A(12)	1C06A (A-12) 'A' CONDENSATE PUMP 1P 8A TRIP OR MOTOR OVERLOAD
00:00:01	None	Insert Malfunction AN1C06A(13)	1C06A (A-13) 'B' CONDENSATE PUMP 1P 8B TRIP OR MOTOR OVERLOAD
00:00:01	None	Insert Override DI-RH-022 to NORM	HS-1908 SUCTION COOLING MOV-1908
00:00:01	None	Insert Override DI-CS-028 to AUTO	HS-2137 INBOARD THROTTLE MOV- 2137 (CLOSE,AUTO,OPEN)
None	1	Insert Override DO-AD-048 to ON	PSV-4400 SAFETY RELIEF VALVE OPEN PSV-4400 (A)
None	2	Insert Override DO-AD-049 to ON	PSV-4401 SAFETY RELIEF VALVE OPEN PSV-4401 (A)
None	3	Insert Override DO-AD-050 to ON	PSV-4402 SAFETY RELIEF VALVE OPEN PSV-4402 (A)
None	4	Insert Override DO-AD-053 to ON	PSV-4405 SAFETY RELIEF VALVE OPEN PSV-4405 (A)
None	5	Insert Override DO-AD-054 to ON	PSV-4406 SAFETY RELIEF VALVE OPEN PSV-4406 (A)
None	6	Insert Override DO-AD-055 to ON	PSV-4407 SAFETY RELIEF VALVE OPEN PSV-4407 (A)

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

**INITIAL CONDITIONS:**

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

The plant has experienced a transient and the following has occurred:

- The plant has been shutdown for 5 days
- Shutdown cooling was lost 10 minutes ago due to a malfunction of MO 1908, INBD SHUTDOWN CLG ISOL. The valve went closed and will not open
- Shutdown cooling tags have been removed
- AOP 149, LOSS OF DECAY HEAT REMOVAL, was entered. It has been determined that, with the current conditions, the time to boil has been calculated to be 45 minutes
- The RPV head is on and tensioned
- RHR Loop "A" has been started and placed in Torus cooling
- People have been evacuated from the Torus and Drywell
- The CRS has determined that the limits contained in the "Pressure and Temperature Limits Report" (PTLR) will NOT be challenged
- The "A" and "B" loops of Condensate and Feedwater are tagged out for various maintenance activities
- Based on system availability and plant configuration, it has been determined that the 'B' Core Spray will be used to establish alternate shutdown cooling per AOP 149, Step 7.2, Feed and Bleed to the Torus via Safety/Relief Valves
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**INITIATING CUES (IF APPLICABLE):**

- Establish the required conditions of feed and bleed to the torus via the SRVs IAW AOP 149, Step 7.2. Use the 'B' Core Spray Pump to feed IAW QRC 1 of OI 151

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**



### JPM PERFORMANCE INFORMATION

Start Time: \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance Step: 1</b> <b>Critical <u>N</u></b>	<b>CONTINUOUS RECHECK STATEMENT</b> Verify compliance with applicable Heat-up and Cooldown limits contained in the “Pressure and Temperature Limits Report” (PTLR) during the performance of Section 7.2, Feed and Bleed to the Torus via Safety/Relief Valves.
<b>Standard:</b>	<b>The Operator will placekeep this Continuous Recheck Statement (given in the turnover.)</b>
<b>Evaluator Cue:</b>	<b>Provide the Operator a copy of AOP 149, Loss of Decay Heat Removal</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	_____

<b>Performance Step: 2</b> <b>Critical <u>N</u></b>	Verify the reactor head is on and tensioned.
<b>Standard:</b>	<b>The Operator will verify the reactor head is on and tensioned (given in the turnover).</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	_____

<b>Performance Step: 3</b> <b>Critical <u>Y</u></b>	Verify the reactor head vents are closed.
<b>Standard:</b>	The Operator closes the head vents (CV-4429 & CV4428)
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 3</b> <b>Critical <u>N</u></b>	Verify at least one SRV with N <sub>2</sub> supply is available.
<b>Standard:</b>	The Operator verifies N <sub>2</sub> press at either PI 4390 is in the Green Band OR CV 4371A CONTAINMENT N <sub>2</sub> SUPPLY ISOL VLV is open.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 4</b> <b>Critical <u>N</u></b>	Evacuate all personnel from the Drywell and Torus areas except personnel assigned to monitor for leakage and/or increased airborne radioactivity levels.
<b>Standard:</b>	The Operator verifies all personnel have been evacuated from the Torus and Drywell (given in turnover).
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 5</b> <b>Critical <u>Y</u></b>	To prevent flow down the main steam lines, verify at least one valve in each steam line is closed: <ul style="list-style-type: none"> <li>Main Steam Line A CV-4412 or CV-4413</li> </ul>
<b>Standard:</b>	<b>The Operator will close either CV-4412 and/or CV-4413 to isolate Main Steam Line A.</b>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	_____

<b>Performance Step: 6</b> <b>Critical <u>Y</u></b>	To prevent flow down the main steam lines, verify at least one valve in each steam line is closed: <ul style="list-style-type: none"> <li>Main Steam Line B CV-4415 or CV-4416</li> </ul>
<b>Standard:</b>	<b>The Operator will close either CV-4415 and/or CV-4416 to isolate Main Steam Line B.</b>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	_____

<b>Performance Step: 7</b> <b>Critical <u>Y</u></b>	To prevent flow down the main steam lines, verify at least one valve in each steam line is closed: <ul style="list-style-type: none"> <li>Main Steam Line C CV-4418 or CV-4419</li> </ul>
<b>Standard:</b>	<b>The Operator will close either CV-4418 and/or CV-4419 to isolate Main Steam Line C.</b>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	_____

<b>Performance Step: 8</b> <b>Critical <u>Y</u></b>	To prevent flow down the main steam lines, verify at least one valve in each steam line is closed: <ul style="list-style-type: none"> <li>Main Steam Line D CV-4420 or CV-4421</li> </ul>
<b>Standard:</b>	<b>The Operator will close either CV-4420 and/or CV-4421 to isolate Main Steam Line D.</b>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	_____

<b>Performance Step: 9</b> <b>Critical <u>N</u></b>	To prevent flow down the main steam lines, verify at least one valve in each steam line is closed: HPCI Steam Line MO-2238 or MO-2239
<b>Standard:</b>	<b>The Operator verifies either MO-2238 and/or MO-2239 HPCI Steam Line isolations are closed.</b>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	_____

<b>Performance Step: 10</b> <b>Critical <u>N</u></b>	To prevent flow down the main steam lines, verify at least one valve in each steam line is closed: <ul style="list-style-type: none"> <li>RCIC Steam Line MO-2400 or MO-2401</li> </ul>
<b>Standard:</b>	<b>The Operator verifies either MO-2400 and/or MO-2401 RCIC Steam Isolations are closed.</b>
<b>Evaluator Note</b>	<b>Only Critical if action to reposition valves is required.</b>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	_____

<b>Performance Step: 11</b> <b>Critical <u>Y</u></b>	To prevent flow down the main steam lines, verify at least one valve in each steam line is closed: <ul style="list-style-type: none"> <li>Steam Line Drains MO-4423 or MO-4424</li> </ul>
<b>Standard:</b>	<b>The Operator will close either MO-4423 and/or MO-4424 isolates Steam Line Drains.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	_____

<b>Performance Step: 12</b> <b>Critical <u>Y</u></b>	Place handswitch for one SRV in the open position.
<b>Standard:</b>	<b>The Operator places the handswitch for one SRV in the OPEN position.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	_____

<b>Performance Step: 13</b> <b>Critical <u>N</u></b>	<b>IF</b> available, <b>THEN</b> place RHR in Torus Cooling per OI 149 as necessary to control cooldown rate.
<b>Standard:</b>	<b>The Operator will recognize this is a turnover item and that RHR "A" is in Torus Cooling.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	_____

<b>Performance Step: 14</b> <b>Critical <u>N</u></b>	Secure RWCU Dump Flow.
<b>Standard:</b>	The Operator will secure RWCU dump flow is secured.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 15</b> <b>Critical <u>N</u></b>	Commence and raise injection into the RPV with either a Condensate, Core Spray or RHR pump until the SRV is open and either: <ul style="list-style-type: none"> <li>RPV pressure is 50 psig above Torus pressure but as low as practical,</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>RPV level is maintained greater than 290" on the floodup indication.</li> </ul>
<b>Standard:</b>	The Operator will transition to starting "B" Core Spray pump in accordance with OI 151 QRC 1, Core Spray Rapid Start
<b>Evaluator Cue:</b>	Provide the Operator a copy of OI 151 QRC 1, Core Spray Rapid Start
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 16</b> <b>Critical <u>N</u></b>	Start 1P-99A[B], ESW Pumps A[B].
<b>Standard:</b>	The Operator verifies that “A” and “B” ESW Pumps are running.
<b>Evaluator Note:</b>	“A” ESW Pump is already started for Torus Cooling already aligned, as it was provided in the turnover
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 17</b> <b>Critical <u>N</u></b>	Start 1P-211A[B], Core Spray Pump A [B].
<b>Standard:</b>	The Operator starts 1P-211B, “B” CORE SPRAY PUMP.
<b>Evaluator Note:</b>	The Core Spray Pump “B” use was directed by the Initiating Cue.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 18</b> <b>Critical N</b>	OPEN MO-2117(2137), Core Spray Inboard Injection Valve, when reactor pressure is <450 psig.
<b>Standard:</b>	The Operator determines that MO-2137 cannot be opened using the handswitch.
<b>Evaluator Note:</b>	<b>[ALTERNATE PATH BEGINS HERE]</b> The Operator may stop the "B" Core Spray Pump before continuing.
<b>Evaluator Cue:</b>	IF Torus low level alarm is received 1C03B (D-9), INFORM the Operator that another Operator will address the alarm.  WHEN the Operator reports that MO-2137 will not open, ACKNOWLEDGE the report as the CRS.  IF asked what your directions are as CRS, CUE the Operator that they should continue with AOP 149, Step 7.2 and inject with Core Spray.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 21</b> <b>Critical N</b>	Start 1P-99A[B], ESW Pumps A[B].
<b>Standard:</b>	The Operator verifies that "A" and "B" ESW Pumps are running.
<b>Evaluator Note:</b>	The Core Spray Rapid Start QRC shall be used to start the Core Spray pump per the turnover.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____



<b>Performance Step: 22</b> <b>Critical <u>Y</u></b>	<b>Start 1P-211A[B], Core Spray Pump A [B].</b>
<b>Standard:</b>	The Operator will start 1P-211A, "A" CORE SPRAY PUMP.
<b>Evaluator Note:</b>	The "A" Core Spray Pump was determined based on availability.
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	_____

<b>Performance Step: 23</b> <b>Critical <u>Y</u></b>	OPEN MO-2117(2137), Core Spray Inboard Injection Valve, when reactor pressure is <450 psig.
<b>Standard:</b>	The Operator will throttle open MO-2117, Core Spray Inboard Injection Valve.
<b>Evaluator Note:</b>	The Critical Step is achieved when there is observe flow indication on FI-2110 "A" CS Inject/ Test Flow indicator.
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	_____

<b>Performance Step: 24</b> <b>Critical <u>N</u></b>	Verify MO-2104[2124], Core Spray Min Flow Bypass Valve, closes when system flow is >600 gpm.
<b>Standard:</b>	The Operator will verify MO-2104 closes when Core Spray System "A" flow is >600 gpm.
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	_____

<b>Performance Step: 25</b> <b>Critical <u>N</u></b>	Throttle MO-2117[2137], Core Spray Inboard Injection Valve, to maintain system flow <3100 gpm.
<b>Standard:</b>	The Operator will throttle MO-2117 to maintain Core Spray "A" system flow of <3100 gpm.
<b>Evaluator Cue:</b>	IF Torus low level alarm is received 1C03B (D-9), INFORM the Operator that another Operator will address the alarm.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 26</b> <b>Critical <u>N</u></b>	Verify RHR/CS Pump Room Cooling Units operating. 1P-211A: 1V-AC-12 1P-211B: 1V-AC-11
<b>Standard:</b>	The Operator will verify RHR/CS Pump Room Cooling Unit 1V-AC-12 is operating.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

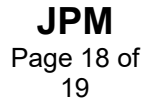
<b>Performance Step: 27</b> <b>Critical <u>N</u></b>	Verify operating Core Spray Pump motors <95 amps.
<b>Standard:</b>	The Operator will verify the 'A' Core Spray amps are lower than 95 amps.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	_____

<b>Performance Step: 28</b> <b>Critical <u>N</u></b>	Commence and raise injection into the RPV with either a Condensate, Core Spray or RHR pump until the SRV is open and either: <ul style="list-style-type: none"> <li>RPV pressure is 50 psig above Torus pressure but as low as practical</li> </ul> OR <ul style="list-style-type: none"> <li>RPV level is maintained greater than 290" on the floodup indication.</li> </ul>
<b>Standard:</b>	The Operator will continue to inject using the "A" Core Spray Pump until: An SRV is open AND <ul style="list-style-type: none"> <li>RPV pressure is 50 psig above Torus pressure but as low as practical</li> </ul> OR <ul style="list-style-type: none"> <li>RPV level is maintained greater than 290" on the floodup indication.</li> </ul>
<b>Evaluator Cue:</b>	<b>WHEN reactor water level is rising, THEN using "time compression" INFORM the student that the JPM is complete.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	_____

**Terminating Cues:** A positive rising reactor water level indication is observed.

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_



TR-AA-230-1007-F15, Revision 0

## TURNOVER SHEET

### INITIAL CONDITIONS:

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

The plant has experienced a transient and the following has occurred:

- The plant has been shutdown for 5 days
- Shutdown cooling was lost 10 minutes ago due to a malfunction of MO 1908, INBD SHUTDOWN CLG ISOL. The valve went closed and will not open
- Shutdown cooling tags have been removed
- AOP 149, LOSS OF DECAY HEAT REMOVAL, was entered. It has been determined that, with the current conditions, the time to boil has been calculated to be 45 minutes
- The RPV head is on and tensioned
- RHR Loop "A" has been started and placed in Torus cooling
- People have been evacuated from the Torus and Drywell
- The CRS has determined that the limits contained in the "Pressure and Temperature Limits Report" (PTLR) will NOT be challenged
- The "A" and "B" loops of Condensate and Feedwater are tagged out for various maintenance activities
- Based on system availability and plant configuration, it has been determined that the 'B' Core Spray will be used to establish alternate shutdown cooling per AOP 149, Step 7.2, Feed and Bleed to the Torus via Safety/Relief Valves
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

### INITIATING CUES (IF APPLICABLE):

- Establish the required conditions of feed and bleed to the torus via the SRVs IAW AOP 149, Step 7.2. Use the 'B' Core Spray Pump to feed IAW QRC 1 of OI 151

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

# JOB PERFORMANCE MEASURE

**JPM TITLE:** Install Defeat 9, GROUP 3 HIGH DW PRESS & RX LOW LEVEL ISOLATION DEFEAT

**JPM NUMBER:** 290001-01 **REV.** 11

**TASK NUMBER(S) / TASK TITLE(S):** 95.19  
Defeat the Reactor Building HVAC Interlock

**K/A NUMBERS:** 290001 A4.10 **K/A VALUE:** 3.4 / 3.3

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐  
Simulator: ☒ Other: ☐  
Lab: ☐

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path [NRC]: NO

Alternate Path [INPO]: NO

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE

[illegible]



**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

**SIMULATOR SETUP INSTRUCTIONS:**

1. This JPM can be performed with any IC which does not have the following signals:
  - Reactor Building Vent Shaft HI rad or equipment failure signal
  - Fuel Pool Exhaust Radiation High-High signal
  - Fuel Pool Exhaust Rad Monitor INOP/DNSC signal
  - Offgas Vent Pipe Radiation High-High signal
2. Create and leave running the simulator schedule file below

**SIMULATOR SCHEDULE FILE(S):**

At Time	On Event	Action	Description
00:00:00	None	Insert override DI-RM-023 to ON	PB-7606A A GROUP 3 INITIATION
00:00:00	None	Insert override DI-RM-024 to ON	PB-7606B B GROUP 3 INITIATION
None	None	Create Event 14 ZDIPCHS4315A -desc Defeat 9A in override	
None	None	Create Event 16 ZDIPCHS4315B -desc Defeat 9B in override	
None	14	Delete override DI-RM-023	PB-7606A A GROUP 3 INITIATION
None	16	Delete override DI-RM-024	PB-7606B B GROUP 3 INITIATION

NOTE: EVENT number can be changed at the simulator operator's discretion to align with additional JPMs to avoid any conflict. ENSURE that the EVENT number is aligned with the event for THIS JPM.

**Required Materials:**

- Key for the EOP Toolbox
- EOP Defeat 9 package (two [2] Keys #2235)

**General References:**

- EOP Defeat 9, Group 3 High DW PRESS & RX LOW LEVEL ISOLATION, Rev. 4

**Task Standards:**

When directed the Operator will install defeat keylock switches to override the Group 3 High Drywell Pressure and Reactor Low Level Isolation signals to reset the Group 3 isolation in accordance with EOP Defeat 9, Group 3 High DW PRESS & RX LOW LEVEL ISOLATION.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

**INITIAL CONDITIONS:**

- The reactor has scrammed due to a LOCA
- Drywell pressure is 4 psig and steady
- Reactor Building temperatures are rising
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**INITIATING CUES (IF APPLICABLE):**

- The Control Room Supervisor has directed you to install Defeat 9 as directed by EOP 3

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

### JPM PERFORMANCE INFORMATION

**Start Time:** \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance Step:</b> <b>Defeat 9, (1)</b> <b>Critical: N</b>	IF RPS power was lost then perform the following, otherwise N/A: <ul style="list-style-type: none"> <li>• Verify power is restored to RPS Bus A</li> <li>• Verify power is restored to RPS Bus B</li> <li>• Verify Fuel Pool Exhaust Radiation monitor RM-4131A is reset</li> <li>• Verify Fuel Pool Exhaust Radiation monitor RM-4131B is reset</li> </ul>
<b>Standard:</b>	Operator will verify the following: <ul style="list-style-type: none"> <li>• Verify power is restored to RPS Bus A</li> <li>• Verify power is restored to RPS Bus B</li> <li>• Verify Fuel Pool Exhaust Radiation monitor RM-4131A is reset</li> <li>• Verify Fuel Pool Exhaust Radiation monitor RM-4131B is reset</li> </ul>
<b>Evaluator Note:</b>	Verification of RPS power can be observed at 1C15 and 1C17. Verification of Fuel Pool Exhaust Radiation monitors can be observed at 1C36.
<b>Evaluator Cue:</b>	Provide the Operator a copy of Defeat 9, Group 3 High DW PRESS & RX LOW LEVEL ISOLATION
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance Step:</b> <b>Defeat 9, NOTE</b> <b>Critical: N</b>	<b>NOTE</b> Taking HS-4315A[B] to OVERRIDE will activate annunciator GROUP 3 CH "A" ["B"] HI DW PRESS AND RX LO LEVEL OVERRIDE (1C14B, B-3 [B-4]).
<b>Standard:</b>	Operator will placekeep NOTE.
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance Step:</b> <b>Defeat 9, (2)</b> <b>Critical: Y</b>	At 1C15, perform the following: (a) Place GROUP 3 CHANNEL A HI DW AND RX LO LEVEL OVERRIDE keylock switch HS-4315A in OVERRIDE (b) Confirm amber light is ON
<b>Standard:</b>	Operator at 1C15, will perform the following: (a) Place GROUP 3 CHANNEL A HI DW AND RX LO LEVEL OVERRIDE keylock switch HS-4315A in OVERRIDE (b) Confirm amber light is ON.
<b>Evaluator Note:</b>	The CRITICAL STEP is placing GROUP 3 CHANNEL A HI DW AND RX LO LEVEL OVERRIDE keylock switch HS-4315A in OVERRIDE. This action will activate the assigned Event Trigger.
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance Step:</b> <b>Defeat 9, (3)</b> <b>Critical: Y</b>	At 1C17, perform the following: (a) Place GROUP 3 CHANNEL B HI DW AND RX LO LEVEL OVERRIDE keylock switch HS-4315B in OVERRIDE (b) Confirm amber light is ON.
<b>Standard:</b>	<b>Operator at 1C17, will perform the following:</b> (a) Place GROUP 3 CHANNEL B HI DW AND RX LO LEVEL OVERRIDE keylock switch HS-4315B in OVERRIDE (b) Confirm amber light is ON
<b>Evaluator Note:</b>	The CRITICAL STEP is placing GROUP 3 CHANNEL B HI DW AND RX LO LEVEL OVERRIDE keylock switch HS-4315B in OVERRIDE. This action will activate the assigned Event Trigger.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance Step:</b> <b>Defeat 9, (4)</b> <b>Critical: N</b>	At 1C03, verify all OUTBD and INBD GROUP 3 ISOL SIG BYPASS FOR CONT VENT keylock handswitches listed below are in the NORM position: <ul style="list-style-type: none"> <li>• A71B-S430A FUEL POOL EXHAUST HI RAD BYPASS</li> <li>• A71B-S430B FUEL POOL EXHAUST HI RAD BYPASS</li> <li>• A71B-S430C RX BLDG VENT HI RAD BYPASS</li> <li>• A71B-S430D RX BLDG VENT HI RAD BYPASS</li> <li>• A71B-S430E DRYWELL HI PRESSURE BYPASS</li> <li>• A71B-S430F DRYWELL HI PRESSURE BYPASS</li> <li>• A71B-S430G RX LO WATER LEVEL BYPASS</li> <li>• A71B-S430H RX LO WATER LEVEL BYPASS</li> <li>• A71B-S430J OFFGAS STACK HI-HI RAD BYPASS</li> <li>• A71B-S430K OFFGAS STACK HI-HI RAD BYPASS</li> </ul>
<b>Standard:</b>	Operator, at 1C03, will verify all OUTBD and INBD GROUP 3 ISOL SIG BYPASS FOR CONT VENT keylock handswitches listed below are in the NORM position: <ul style="list-style-type: none"> <li>• A71B-S430A FUEL POOL EXHAUST HI RAD BYPASS</li> <li>• A71B-S430B FUEL POOL EXHAUST HI RAD BYPASS</li> <li>• A71B-S430C RX BLDG VENT HI RAD BYPASS</li> <li>• A71B-S430D RX BLDG VENT HI RAD BYPASS</li> <li>• A71B-S430E DRYWELL HI PRESSURE BYPASS</li> <li>• A71B-S430F DRYWELL HI PRESSURE BYPASS</li> <li>• A71B-S430G RX LO WATER LEVEL BYPASS</li> <li>• A71B-S430H RX LO WATER LEVEL BYPASS</li> <li>• A71B-S430J OFFGAS STACK HI-HI RAD BYPASS</li> <li>• A71B-S430K OFFGAS STACK HI-HI RAD BYPASS</li> </ul>
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance Step:</b> <b>Defeat 9, (5)</b> <b>Critical: N</b>	At 1C05, verify that the CONTAINMENT VENT PATH SELECT switch A71B-S34 is in the NORM position
<b>Standard:</b>	Operator, at 1C05, will verify that the CONTAINMENT VENT PATH SELECT switch A71B-S34 is in the NORM position
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance Step:</b> <b>Defeat 9, (6)</b> <b>Critical: Y</b>	At 1C05, reset PCIS GROUP 1 – 5 RESET pushbuttons by performing the following: <ul style="list-style-type: none"> <li>Depress A71B-S32 PCIS GROUP 1-5 DIV 1 RESET pushbutton</li> <li>Depress A71B-S33 PCIS GROUP 1-5 DIV 2 RESET pushbutton</li> </ul>
<b>Standard:</b>	<b>Operator, At 1C05, will reset PCIS GROUP 1 – 5 RESET pushbuttons by performing the following:</b> <ul style="list-style-type: none"> <li><b>Depress A71B-S32 PCIS GROUP 1-5 DIV 1 RESET pushbutton</b></li> <li><b>Depress A71B-S33 PCIS GROUP 1-5 DIV 2 RESET pushbutton</b></li> </ul>
<b>Evaluator Note:</b>	<b>The CRITICAL STEP requires both A71B-S32 AND A71B-S33 to be depressed</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>Defeat 9, (7)</b> <b>Critical: Y</b>	At 1C24, perform the following: <ul style="list-style-type: none"> <li>Reset L/R-5830A INBOARD ISOLATION LOCKOUT RELAY</li> <li>Reset L/R-5830B OUTBOARD ISOLATION LOCKOUT RELAY</li> </ul>
<b>Standard:</b>	<b>Operator, At 1C24, will perform the following:</b> <ul style="list-style-type: none"> <li><b>Reset L/R-5830A INBOARD ISOLATION LOCKOUT RELAY</b></li> <li><b>Reset L/R-5830B OUTBOARD ISOLATION LOCKOUT RELAY</b></li> </ul>
<b>Evaluator Note:</b>	<b>The CRITICAL STEP requires both L/R-5830A and L/R-5830B to be reset.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

**Terminating Cues:**      **When both Lockout Relays have been reset at 1C24.**

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_



290001-01, Install Defeat 9, GROUP 3 HIGH DW PRESS & RX LOW  
LEVEL ISOLATION DEFEAT, Rev. 11

**JPM**  
Page 11 of  
12

Examinee: \_\_\_\_\_

Evaluator: \_\_\_\_\_

☐ RO ☐ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT

Date: \_\_\_\_\_

☐ LOIT RO ☐ LOIT SRO

PERFORMANCE RESULTS:

SAT:

UNSAT:

Remediation required:

YES

NO

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).


**EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES  
CLEANED, AS APPROPRIATE.**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_

*NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If  
unsatisfactory performance is demonstrated, the entire JPM should be retained.*



## TURNOVER SHEET

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

### INITIAL CONDITIONS:

- The reactor has scrammed due to a LOCA
- Drywell pressure is 4 psig and steady
- Reactor Building temperatures are rising
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

### INITIATING CUES (IF APPLICABLE):

- The Control Room Supervisor has directed you to install Defeat 9 as directed by EOP 3

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

# JOB PERFORMANCE MEASURE

**JPM TITLE:** PERFORM REQUIRED ACTIONS FOR TRANSFER OF ESSENTIAL BUS FROM STANDBY TO STARTUP TRANSFORMER

**JPM NUMBER:** 262001-02 **REV.** 10

**TASK NUMBER(S) / TASK TITLE(S):** 15.11  
Transfer Essential Bus from Standby to Startup Transformer

**K/A NUMBERS:** 262001 A4.04 **K/A VALUE:** 3.6/3.7

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐  
Simulator: ☒ Other: ☐  
Lab: ☐

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path [NRC]: NO

Alternate Path [INPO]: NO

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE

[illegible]

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

**SIMULATOR SETUP INSTRUCTIONS:**

1. This JPM can be completed in any IC which 1A3 can be powered from the STANDBY Transformer
2. Verify that 1A3 is powered from the Standby Transformer
3. Markup OI 304.2, Section 7.4, Steps 1 through 4 as complete, with the exception of the NOTE prior to step 5
4. Markup OI 304.2, Section 7.4, Steps 12.a through 12.c as "N/A"
5. Insert the malfunction as listed below

**SIMULATOR MALFUNCTIONS:** NONE

Time	Malf. No	Malfunction Title	ET	Delay	Ramp	Initial Value	Final Value
Setup	ED03	POWER GRID VOLTAGE TRANSIENT (NORMAL GRID VOLTAGE =50)				50	46

**SIMULATOR OVERRIDES:** NONE

**SIMULATOR REMOTE FUNCTIONS:** NONE

**Required Materials:** OI 304.2, 4160V/480V Essential Electrical Distribution System

**General References:** OI 304.2, 4160V/480V Essential Electrical Distribution System, Rev. 101

**Task Standards:** When directed, the Operator will transfer an Essential Electrical Distribution bus from the Standby transformer to the Startup transformer in accordance with OI 304.2, 4160V/480V Essential Electrical Distribution System

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

**INITIAL CONDITIONS:**

- Bus 1A3 is being supplied from the Standby transformer

**INITIATING CUES (IF APPLICABLE):**

- The CRS directs you to transfer 1A3 from the Standby transformer to the Startup transformer
- OI 304.2, 4160V/480V Essential Electrical Distribution System Section 7.4, steps 1 through 4 have been completed satisfactorily
- Breaker 1A302 will not be cycled for operability
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

### JPM PERFORMANCE INFORMATION


Start Time: \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, NOTE</b> <b>Critical: N</b>	<p style="text-align: center;"><b><u>NOTE</u></b></p> Placing the BUS 1A3 [1A4] TRANSFER Mode Selector switch to MANUAL will activate the 4KV BUS AUTO TRANSFER INOP (1C08A, D-7) annunciator.
<b>Standard:</b>	Operator will placekeep <b>NOTE</b> .
<b>Evaluator Cue:</b>	Provide the Operator with a marked up copy of OI 304.2, Section 7.4, Transferring Essential Bus 1A3[4] From Standby to Startup Transformer
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (5)</b> <b>Critical: Y</b>	Place BUS 1A3[4] TRANSFER switch in MANUAL.
<b>Standard:</b>	Operator will place BUS 1A3 TRANSFER switch in <b>MANUAL</b> .
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> _____
<b>Comments:</b>	

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<b>Performance Step:</b> <b>OI 304.2, Sec 7.4,</b> <b>CAUTION</b> <b>Critical: N</b>	<b>CAUTION</b> Simultaneous use of two Synchronizing Scope Switches may result in significant equipment damage or unintentional breaker trips and lock outs.
<b>Standard:</b>	<b>Operator will placekeep CAUTION.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (6)</b> <b>Critical: Y</b>	Insert the handle in the SYNCHRONIZE switch for 4KV BREAKER 1A302[402] STARTUP TRANSFORMER TO BUS 1A3[4], and place it in the ON position.
<b>Standard:</b>	<b>Operator will insert the handle in the SYNCHRONIZE switch for 4KV BREAKER 1A302 STARTUP TRANSFORMER TO BUS 1A3, and place it in the ON position.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	


<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (7)</b> <b>Critical: N</b>	Verify that the synchroscope indicates near 12 o'clock and not moving with both white (differential phase voltage) indicating lights OFF.
<b>Standard:</b>	<b>Operator will verify that the synchroscope indicates near 12 o'clock and not moving with both white (differential phase voltage) indicating lights OFF.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	



<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, NOTE</b> <b>Critical: N</b>	<b><u>NOTE</u></b> When transferring buses, INCOMING and RUNNING voltages should indicate between 116 and 124 volts. However, under certain load conditions, voltages might be slightly less than these values. In such instances, transfer is still permissible as long as voltages can be maintained within 8 volts of each other.
<b>Standard:</b>	<b>Operator will placekeep the NOTE.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	


<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (8)</b> <b>Critical: N</b>	Verify that INCOMING VOLTS SYNCHRONIZE and RUNNING VOLTS SYNCHRONIZE are within 8 volts.
<b>Standard:</b>	<b>Operator will verify that INCOMING VOLTS SYNCHRONIZE and RUNNING VOLTS SYNCHRONIZE are within 8 volts.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (9)</b> <b>Critical: N</b>	Select Phase 1 with the BUS 1A3[4] STANDBY XFMR AMPERES meter switch, and observe ammeter reading.
<b>Standard:</b>	<b>Operator will select Phase 1 with the BUS 1A3 STANDBY XFMR AMPERES meter switch, and observe ammeter reading.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

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<b>Performance Step:</b> OI 304.2, Sec 7.4, (10) <b>Critical: N</b>	Select Phase 1 with the BUS 1A3[4] STARTUP XFMR AMPERES meter switch.
<b>Standard:</b>	<b>Operator will select Phase 1 with the BUS 1A3 STARTUP XFMR AMPERES meter switch.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> OI 304.2, Sec 7.4, <b>NOTE</b> <b>Critical: N</b>	<p style="text-align: center;"><b><u>NOTE</u></b></p> Two incoming supply breakers on a 4160V essential bus should never be closed at the same time except when transferring supplies or testing the standby diesel generators. When transferring supplies, open the originally closed supply breaker as soon as possible after paralleling.
<b>Standard:</b>	<b>Operator will placekeep the NOTE.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	


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<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (11)</b> <b>Critical: Y</b>	Place control switch 4KV BREAKER 1A302[402] STARTUP TRANSFORMER TO BUS 1A3[4] momentarily in the CLOSE position. Observe that the red (breaker closed) and white (closing spring charged) indicating lights are ON.
<b>Standard:</b>	<b>Operator will place control switch 4KV BREAKER 1A302 STARTUP TRANSFORMER TO BUS 1A3 momentarily in the CLOSE position. Observe that the red (breaker closed) and white (closing spring charged) indicating lights are ON.</b>
<b>Evaluator Note:</b>	<b>The CRITICAL STEP is placing the control switch 4KV BREAKER 1A302 STARTUP TRANSFORMER TO BUS 1A3 momentarily in the CLOSE position.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, NOTE</b> <b>Critical: N</b>	<p style="text-align: center;"><b><u>NOTE</u></b></p> Any time an essential 4160V breaker is racked in, its function shall be verified by opening and closing the breaker with the control room handswitch before the breakers associated load is declared operable. If maintenance was performed on the breaker, the post maintenance testing shall be completed prior to declaring the breaker and its associated load operable.
<b>Standard:</b>	<b>Operator will placekeep the NOTE.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	


<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (12)(a-c)</b> <b>Critical: N</b>	<p>If 4KV BREAKER 1A302[402] STARTUP TRANSFORMER TO BUS 1A3[4] breaker is required to be cycled for operability, perform the following (otherwise, mark the following substeps N/A):</p> <p>(a) Place control switch 4KV BREAKER 1A302[402] STARTUP TRANSFORMER TO BUS 1A3[4] momentarily in the TRIP position. Observe that the green (breaker open) and white (closing spring charged) indicating lights are ON.</p> <p>(b) Declare 4KV BREAKER 1A302[402] STARTUP TRANSFORMER TO BUS 1A3[4] operable.</p> <p>(c) Place control switch 4KV BREAKER 1A302[402] STARTUP TRANSFORMER TO BUS 1A3[4] momentarily in the CLOSE position. Observe that the red (breaker closed) and white (closing spring charged) indicating lights are ON.</p>
<b>Standard:</b>	<b>Operator will review this step.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (13)</b> <b>Critical: N</b>	<p>Observe that the bus has parallel supplies by observing approximately equal currents on the supply ammeters.</p>
<b>Standard:</b>	<b>Operator will observe that the bus has parallel supplies by observing approximately equal currents on the supply ammeters.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

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<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, NOTE</b> <b>Critical: N</b>	<p style="text-align: center;"><b><u>NOTE</u></b></p> The Standby XFMR offsite Circuit will be inoperable until the bus transfer switch is returned to AUTO.
<b>Standard:</b>	<b>Operator will placekeep this NOTE.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (14)</b> <b>Critical: Y</b>	Place the control switch 4KV BREAKER 1A301[401] STANDBY TRANSFORMER TO BUS 1A3[4] momentarily in the TRIP position. Observe that the green (breaker open) and white (closing spring charged) indicating lights are ON.
<b>Standard:</b>	<b>Operator will place the control switch 4KV BREAKER 1A301 STANDBY TRANSFORMER TO BUS 1A3 momentarily in the TRIP position. Observe that the green (breaker open) and white (closing spring charged) indicating lights are ON.</b>
<b>Evaluator Note:</b>	<b>The CRITICAL STEP is to place the control switch 4KV BREAKER 1A301 STANDBY TRANSFORMER TO BUS 1A3 momentarily in the TRIP position.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

	<b>262001-02, PERFORM REQUIRED ACTIONS FOR TRANSFER OF ESSENTIAL BUS FROM STANDBY TO STARTUP TRANSFORMER, Rev. 10</b>	<b>JPM</b> Page 13 of 16
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<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (15)</b> <b>Critical: N</b>	Place the SYNCHRONIZE switch for 4KV BREAKER 1A302[402] STARTUP TRANSFORMER TO BUS 1A3[4] in the OFF position, and remove the handle.
<b>Standard:</b>	<b>Operator will place the SYNCHRONIZE switch for 4KV BREAKER 1A302 STARTUP TRANSFORMER TO BUS 1A3 in the OFF position, and remove the handle.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (16)</b> <b>Critical: N</b>	Select individual phases with the BUS 1A3[4] STARTUP XFMR AMPERES meter switch to observe the current load and to verify approximately equal phase currents.
<b>Standard:</b>	<b>Operator will select individual phases with the BUS 1A3 STARTUP XFMR AMPERES meter switch to observe the current load and to verify approximately equal phase currents.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 304.2, Sec 7.4, (17)</b> <b>Critical: N</b>	On the BUS 1A3[4] VOLTS meter, observe that all three phase-to-phase voltages indicate approximately 4160V by selecting each phase-to-phase position.
<b>Standard:</b>	<b>Operator will observe that all three phase-to-phase voltages, on BUS 1A3, indicate approximately 4160V by selecting each phase-to-phase position.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> OI 304.2, Sec 7.4, (18) <b>Critical: N</b>	Place BUS 1A3[4] TRANSFER switch in AUTO.
<b>Standard:</b>	Operator will place BUS 1A3 TRANSFER switch in AUTO.
<b>Evaluator Cue:</b>	When the Operator places BUS 1A3 Transfer switch in AUTO, REPORT, <u>"Another Operator will complete this section."</u>
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

**Terminating Cues:** When the Operator places BUS 1A3 TRANSFER switch in AUTO.

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_

**Examinee:** \_\_\_\_\_

**Evaluator:** \_\_\_\_\_

☐ RO ☐ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT

Date: \_\_\_\_\_

☐ LOIT RO      ☐ LOIT SRO

## PERFORMANCE RESULTS:

**SAT:**

**UNSAT:** ☐

**Remediation required:**

**YES** ☐

NO	
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**COMMENTS/FEEDBACK:** (Comments shall be made for any steps graded unsatisfactory).

**EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_

*NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.*



## TURNOVER SHEET

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

### INITIAL CONDITIONS:

- Bus 1A3 is being supplied from the Standby transformer

### INITIATING CUES (IF APPLICABLE):

- The CRS directs you to transfer 1A3 from the Standby transformer to the Startup transformer
- OI 304.2, 4160V/480V Essential Electrical Distribution System Section 7.4, steps 1 through 4 have been completed satisfactorily
- Breaker 1A302 will not be cycled for operability
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

# JOB PERFORMANCE MEASURE

**JPM TITLE:** VERIFY TIP SYSTEM GROUP II ISOLATION [B TIP retracts, ball valve fails to close automatically]

**JPM NUMBER:** 215001-02 **REV.** 0

**TASK NUMBER(S) / TASK TITLE(S):** 83.03 / Verify a TIP System Response to a Group II Containment Isolation

**K/A NUMBERS:** 215001 A2.07 **K/A VALUE:** 3.4 / 3.7

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☐ Non-Lic ☒ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐  
Simulator: ☒ Other: ☐  
Lab: ☐

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path [NRC]: NO

Alternate Path [INPO]: NO

<b>Developed by:</b>	_____ Instructor/Developer	_____ Date
<b>Reviewed by:</b>	_____ Instructor (Instructional Review)	_____ Date
<b>Validated by:</b>	_____ SME (Technical Review)	_____ Date
<b>Approved by:</b>	_____ Training Supervision	_____ Date
<b>Approved by:</b>	_____ Training Program Owner	_____ Date

## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE

[illegible]

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

**SIMULATOR SETUP INSTRUCTIONS:**

1. This JPM can be performed with any IC which does not have a Group 2 Isolation signal
2. Setup the "B" TIP Machine as follows (this will take approximately 3 minutes):
  - a. Place the MODE switch in AUTO
  - b. Place the MAN VALVE CONTROL switch to OPEN
  - c. Depress the AUTO START (this will insert the TIP probe to the indexer)

**SIMULATOR MALFUNCTIONS:**

TIME	MALFUNCTION #	MALFUNCTION TITLE	ET	DELAY	F. SEV.	RAMP	I. SEV.
As Dir	MS21A	Spurious Group 2 Isolation Relay A71-K59	1		Active		Active
As Dir	MS21B	Spurious Group 2 Isolation Relay A71-K60	1		Active		Active
Setup	MS22L	Group 2 Isolation Vlvs Fail(s) to close B TIP Ball Vlv			Active		Active

**SIMULATOR OVERRIDES:** NONE

**SIMULATOR REMOTE FUNCTIONS:** NONE

**Required Materials:**

- OI 878.6, Traversing In-Core Probe System

**General References:**

- OI 878.6, Traversing In-Core Probe System, Rev. 51

**Task Standards:**

When directed to verify the TIP System response to a Group II Containment Isolation, the Operator will perform the verification in accordance with OI 878.6, Traversing In-Core Probe System

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

**INITIAL CONDITIONS:**

- An LPRM calibration was in progress using the TIP machines in AUTOMATIC
- Drywell pressure is rising due to a leak in the primary containment
- A Group 2 isolation and a SCRAM occurred
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**INITIATING CUES (IF APPLICABLE):**

- The Control Room Supervisor directs you perform OI 878.6, Section 6.0, TIP SYSTEM RESPONSE TO A GROUP II CONTAINMENT ISOLATION

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

### JPM PERFORMANCE INFORMATION

Start Time: \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance Step:</b> <b>OI 878.6, Sec. 6.0, NOTE</b> <b>Critical: N</b>	<b>NOTE</b> A Group II Channel A Isolation will cause TIP detectors to retract to the shield chambers, if withdrawn, and the TIP Ball Valves to close. The isolation signal will remain sealed in after the Group II isolation clears.
<b>Standard:</b>	<b>Operator will placekeep NOTE.</b>
<b>Evaluator Cue:</b>	<b>Provide the Operator a copy of OI 878.6, Traversing In-Core Probe System</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 878.6, Sec. 6.0, (1)(a)</b> <b>Critical: N</b>	At 1C03, verify that the green TIP (all valves closed) light is ON and the red TIP (any valve open) light OFF. If this is not the case, perform the following: (a) Determine which ball valve is open by examining the ball valve indicating lights on the TIP Control Cabinet
<b>Standard:</b>	<b>Operator will determine at 1C03 the TIP all valves closed is OFF and the red TIP (any valve open) light is ON and at 1C13 the B TIP isolation valve has not closed.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 878.6, Sec. 6.0, (1)(b)</b> <b>Critical: Y</b>	If the associated detector is not in shield, manually retract the detector by placing the MODE switch to MAN and the MANUAL switch to REV.
<b>Standard:</b>	<b>Operator will determine that the B TIP probe is not in the shield and will place the MODE switch to MAN and the MANUAL switch to REV.</b>
<b>Evaluator Note:</b>	<b>The CRITICAL STEPS are:</b> <ul style="list-style-type: none"> <li>Place the MODE switch in MAN</li> <li>Place the MANUAL switch to REV</li> </ul>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 878.6, Sec. 6.0, (1)(c)</b> <b>Critical: N</b>	Ensure that the detector is being retracted by observing that the REV light is ON, and the digital display changing as expected.
<b>Standard:</b>	<b>Operator will determine the detector is retracting as indicated on the digital display.</b>
<b>Evaluator Note</b>	<b>It will take approximately 3 minutes for the detector to reach the IN-Shield position.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 878.6, Sec. 6.0, (1)(d)</b> <b>Critical: N</b>	Confirm that the ball valve closes by observing that the VALVE light turns OFF for the AREVA DRIVE CONTROL UNIT.
<b>Standard:</b>	<b>Operator will observe that the VALVE light turns OFF.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	



<b>Performance Step:</b> <b>OI 878.6, Sec. 6.0, (1)(e)</b> <b>Critical: N</b>	Confirm that the BALL VALVE CLOSED light on the Valve Control Monitor turns ON.
<b>Standard:</b>	<b>Operator will confirm that the BALL VALVE CLOSED light on the Valve Monitor turns ON.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 878.6, Sec. 6.0, (1)(f)</b> <b>Critical: Y</b>	If the ball valve is still open, verify that the MAN VALVE CONTROL switch is in the CLOSED position.
<b>Standard:</b>	<b>Operator will place the MAN VALVE CONTROL switch to the CLOSED position.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

**Terminating Cues:** When the Operator places the MAN VALVE CONTROL switch to the CLOSED position, CUE the Operator that the JPM is complete.

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_



## TURNOVER SHEET

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

### INITIAL CONDITIONS:

- An LPRM calibration was in progress using the TIP machines in AUTOMATIC
- Drywell pressure is rising due to a leak in the primary containment
- A Group 2 isolation and a SCRAM occurred
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

### INITIATING CUES (IF APPLICABLE):

- The Control Room Supervisor directs you perform OI 878.6, Section 6.0, TIP SYSTEM RESPONSE TO A GROUP II CONTAINMENT ISOLATION

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

# JOB PERFORMANCE MEASURE

**JPM TITLE:** 400000-03 ALTERNATING RBCCW PUMPS [Pump fails to secure from the control room]

**JPM NUMBER:** 400000-03 **REV.** 0

**TASK NUMBER(S) / TASK TITLE(S):** 29.04 / Alternate RBCCW Pumps

**K/A NUMBERS:** 400000 A4.01 **K/A VALUE:** 3.1/3.0

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☐ Non-Lic ☒ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐  
Simulator: ☒ Other: ☐  
Lab: ☐

Time for Completion: 10 Minutes Time Critical: NO

Alternate Path [NRC]: YES

Alternate Path [INPO]: YES

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001}      NONE

[illegible]

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

**SIMULATOR SETUP INSTRUCTIONS:**

1. Any IC which provides electrical power to essential electrical buses
2. Ensure A and B RBCCW pumps are in service with C RBCCW pump in standby
3. INSERT simulator Override as directed in the table below

**SIMULATOR MALFUNCTIONS:** NONE

**SIMULATOR OVERRIDES:**

Time	Override	Override Title	ET	Delay	Ramp	Initial Value	Final Value
Setup	DI-SW-029	HS-4833 RB BLG WATER PUMP 1P81B				NORMAL	START

**SIMULATOR REMOTE FUNCTIONS:** NONE

**Required Materials:** OI 414, Reactor Building Closed Cooling Water System

**General References:** OI 414, Reactor Building Closed Cooling Water System, Rev. 42

**Task Standards:** When directed to alternate RBCCW Pump alignment, the Operator will alternate Standby RBCCW System Components in accordance with OI 414, Reactor Building Closed Cooling Water System

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

**INITIAL CONDITIONS:**

- A & B RBCCW pumps are in service; C is in Standby
- The System Engineer would like to obtain vibration data on the “C” RBCCW pump and have the “B” RBCCW pump secured
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**INITIATING CUES (IF APPLICABLE):**

- Start the “C” RBCCW pump and place the “B” RBCCW pump in standby readiness condition in accordance with OI 414, Reactor Building Closed Cooling Water System

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**



### JPM PERFORMANCE INFORMATION

**Start Time:** \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance Step:</b> <b>OI 414, Sec. 7.1, CAUTION</b> <b>Critical: N</b>	<b>CAUTION</b> Minimize the amount of time that all three RBCCW Pumps are running while swapping pumps.
<b>Standard:</b>	<b>Operator placekeeps CAUTION</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 414, Sec. 7.1, (1)</b> <b>Critical: Y</b>	Place the Standby RBCCW pump handswitch on 1C06 in the START position:					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">RBCCW Pump</td> <td style="padding: 2px;">Handswitch</td> </tr> <tr> <td style="padding: 2px;">1P-81C</td> <td style="padding: 2px;">HS-4837</td> </tr> </table>	RBCCW Pump	Handswitch	1P-81C	HS-4837	
RBCCW Pump	Handswitch					
1P-81C	HS-4837					
<b>Standard:</b>	<b>Operator takes HS-4837 to the START position</b>					
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>					
<b>Comments:</b>						

<b>Performance Step:</b> <b>OI 414, Sec. 7.1, (2)</b> <b>Critical: N</b>	Verify that the Standby RBCCW pump starts by observing the red light indication over the handswitch is turns on.
<b>Standard:</b>	<b>Operator will verify that the Standby RBCCW pump starts by observing the red light indication over the handswitch is turns on.</b>
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 414, Sec. 7.1, (3)</b> <b>Critical: N</b>	Place the handswitch for the RBCCW pump control switch that is to be secured in the STOP position:	
	RBCCW Pump	Handswitch
	1P-81B	HS-4833
<b>Standard:</b>	<b>Operator will place handswitch HS-4833 to the STOP position.</b>	
<b>Performance:</b>	<b>SATISFACTORY</b> _____ <b>UNSATISFACTORY</b> ____	
<b>Comments:</b>		

<b>Performance Step:</b> <b>OI 414, Sec. 7.1, (4)</b> <b>Critical: N</b>	Verify that the Standby RBCCW pump stops by observing the green light indication over the handswitch is turned on.
<b>Standard:</b>	<b>Operator will determine that “B” RBCCW pump did not STOP by observing the red pump running light indication and RBCCW pressure remaining high even after HS 4833 is taken to STOP.</b>
<b>Evaluator Note:</b>	<b>[ALTERNATE PATH BEGINS AT THE DETERMINATION OF 3 RBCCW PUMPS RUNNING]</b>  <b>The applicant may take the “B” RBCCW Pump back to RUN this action will not affect the outcome of the JPM</b>
<b>Evaluator Cue:</b>	<b>If the Operator reports the failure of “B” RBCCW Pump to respond, ACKNOWLEDGE the REPORT.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 414, Sec. 7.1, (4)</b> <b>Critical: Y</b>	Operator determines that there are 3 RBCCW pumps running and takes action to secure one of the RBCCW pumps, either “A” or “C” RBCCW Pumps to be in compliance with the system caution read previously.
<b>Standard:</b>	<b>Operator will place either:</b> <b>1. HS 4829 “A” RBCCW Pump control switch to the STOP position</b> <b>-OR-</b> <b>2. HS 4837 “C” RBCCW Pump control switch to the STOP position</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 414, Sec. 7.1, (5)</b> <b>Critical: Y</b>	Place the handswitch for the secured RBCCW Pump to AUTO.
<b>Standard:</b>	Operator will place the handswitch taken to STOP to the AUTO position: 1. HS 4829 "A" RBCCW Pump control switch -OR- 2. HS 4837 "C" RBCCW Pump control switch
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

**Terminating Cues:** When there are two RBCCW Pumps in service and parameters have returned to normal.

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_



**400000-03, ALTERNATING RBCCW PUMPS [Pump fails to secure from the control room], Rev. 0**

**JPM**  
Page 10 of  
11

Examinee: \_\_\_\_\_

Evaluator: \_\_\_\_\_

☐ RO ☐ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT

Date: \_\_\_\_\_

☐ LOIT RO ☐ LOIT SRO

PERFORMANCE RESULTS:

SAT:

UNSAT:

Remediation required:

YES

NO

**COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).**


**EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_

*NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.*

## TURNOVER SHEET

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

### INITIAL CONDITIONS:

- A & B RBCCW pumps are in service; C is in Standby
- The System Engineer would like to obtain vibration data on the "C" RBCCW pump and have the "B" RBCCW pump secured
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

### INITIATING CUES (IF APPLICABLE):

- Start the "C" RBCCW pump and place the "B" RBCCW pump in standby readiness condition in accordance with OI 414, Reactor Building Closed Cooling Water System

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

# JOB PERFORMANCE MEASURE

**JPM TITLE:** PERFORM DOWNSCALE / UPSCALE TRIP OPERATIONAL CHECK OF ARMS

**JPM NUMBER:** 272000-05 **REV.** 0

**TASK NUMBER(S) / TASK TITLE(S):** 86.04 / PERFORM DOWNSCALE / UPSCALE TRIP SETPOINT CHECK

**K/A NUMBERS:** 272000 **K/A VALUE:** 3.0 / 3.0

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☐ Non-Lic ☒ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☐ Perform: ☒

**EVALUATION LOCATION:** In-Plant: ☐ Control Room: ☐  
Simulator: ☒ Other: ☐  
Lab: ☐

Time for Completion: 20 Minutes Time Critical: NO

Alternate Path [NRC]: NO

Alternate Path [INPO]: NO

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

### JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE



[illegible]

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

**SIMULATOR SETUP INSTRUCTIONS:**

1. This JPM can be performed at any reactor power level
2. Ensure that electrical power is available for ARM RI-9163, Reactor Building North End Refuel Floor ARM
3. INSERT the simulator malfunctions contained in the table below (this is done at the discretion of the examiner to minimize the noise generated in the back panel area)

**SIMULATOR MALFUNCTIONS:**

Time	Malf. No	Malfunction Title	ET	Delay	Ramp	Initial Value	Final Value
*SETUP	AN1C04B(25)	1C04B (C-07) ARM DNSCL/INOP				OFF	OFF
*SETUP	AN1C35A(1)	1C35A (A-01) REFUELING FLOOR NORTH END HI RADIATION				OFF	OFF

(\*Can be inserted at the discretion of the examiner this is to minimize the noise generated in the back panel area)

**SIMULATOR OVERRIDES:** NONE

**SIMULATOR REMOTE FUNCTIONS:** NONE

**Required Materials:** OI 879.2, AREA RADIATION MONITORING SYSTEM

**General References:** OI 879.2, AREA RADIATION MONITORING SYSTEM, Rev. 27

**Task Standards:** When required to perform Downscale/Upscale Trip Setpoint Checks for Area Radiation Monitors, the Operator will perform the Downscale/Upscale Trip Setpoint Checks in accordance with OI 879.2, Area Radiation Monitoring System

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

**INITIAL CONDITIONS:**

- The initial conditions that I read may not **exactly** match the simulator setup, assume that the conditions that I read you are **the correct** plant conditions
- RI-9163, Reactor Building North End Refuel Floor ARM was de-energized for approximately two hours on the previous shift
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**INITIATING CUES (IF APPLICABLE):**

- The CRS directs you to coordinate the performance of the downscale/upscale trip setpoint check on ARM RI-9163, Reactor Building North End Refuel Floor ARM, ONLY, with the front panel Operator, in accordance with OI-879.2, Area Radiation Monitoring System

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

### JPM PERFORMANCE INFORMATION

Start Time: \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance Step:</b> Sec. 6.0, Step NOTE <b>Critical: N</b>	<b><u>NOTE</u></b> Local alarm will sound during the trip setpoint checks.
<b>Standard: OI 879.2</b>	Operator placekeeps NOTE.
<b>Evaluator Cue:</b>	Provide the Operator a copy of OI 879.2, Area Radiation Monitoring System
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (1) <b>Critical: N</b>	Make a plant page announcement that ARM horns will sound in the affected areas.
<b>Standard:</b>	Operator makes a page announcement for the testing of ARM RI-9163, Reactor Building North End Refuel Floor.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (3) Critical: N	For the Upscale Trip Setpoint verification, the operator shall use the trip setpoint data contained in Appendix 1 of this procedure. The ARM trip setpoint checks will be performed on the respective ARM Indicator and Trip Units at 1C11.
<b>Standard:</b>	Operator references OI 879.2, Appendix 1 and determines the Upscale Trip Setpoint for ARM RI-9163, Reactor Building North End Refuel Floor.
<b>Evaluator Note:</b>	OI 879.2, Appendix 1, Upscale Trip Setpoint for ARM RI-9163, Reactor Building North End Refuel Floor are: <ul style="list-style-type: none"> <li>• Downscale trip: <u>0.01 mR/Hr</u></li> <li>• Upscale trip: <u>10 mR/Hr</u></li> </ul>
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (4) Critical: N	Turn the Trip Check Adjust knob on the respective power supply E/S9150A[B or C] for the ARM being tested fully counter-clockwise.
<b>Standard:</b>	Operator turns the Trip Check Adjust knob on the respective power supply E/S9150A for the ARM being tested fully counter-clockwise.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step NOTE Critical: N	<b><u>NOTE</u></b> When the operator places the Mode Selector Switch on the ARM being tested out of the OPERATE position, the ARM DNSCL/INOP (1C04B, C-7) annunciator will be activated.
<b>Standard:</b>	Operator will placekeep the NOTE.
<b>Evaluator Cue:</b>	Inform the Operator that another front panel Operator will take responsibilities for responding to the annunciators
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (5) Critical: Y	Place the Mode Selector Switch for the ARM being tested in the TRIP TEST position.
<b>Standard:</b>	Operator will place the Mode Selector Switch for the ARM RI-9163, Reactor Building North End Refuel Floor to the TRIP TEST position.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (6) Critical: N	Confirm that ARM DNSCL/INOP (1C04B, C-7) annunciator is activated.
<b>Standard:</b>	Operator will confirm that ARM DNSCL/INOP (1C04B, C-7) annunciator is activated.
<b>Evaluator Cue:</b>	After the Operator places the Mode Selector Switch for the ARM being tested to the TRIP TEST position, and at the request of the Operator, REPORT: <u>"ARM DNSCL/INOP (1C04B, C-7) annunciator is activated."</u>
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (7) Critical: Y	Position the Trip Check Adjust Knob such that the indication on the ARM Indicator and Trip Unit is between the Downscale and Upscale Trip Setpoints.
<b>Standard:</b>	Operator will position the Trip Check Adjust Knob such that the indication on the ARM Indicator and Trip Unit is between the Downscale and Upscale Trip Setpoints.
<b>Evaluator Note:</b>	The CRITICAL STEP is to adjust the Trip Check Adjust Knob such that RI- 9163, Reactor Building North End Refuel Floor, indicator is greater than 0.01 mR/Hr and less than 10 mR/Hr.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (8) Critical: Y	Depress the RESET pushbutton on the ARM being tested, and verify that both the LOW and the HIGH front panel lights are OFF.
<b>Standard:</b>	Operator will depress the RESET pushbutton on ARM RI-9163, Reactor Building North End Refuel Floor, and verify that both the LOW and the HIGH front panel lights are OFF.
<b>Evaluator Note:</b>	The CRITICAL STEP is that the RESET pushbutton is depressed.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> <b>Sec. 6.0, Step (9)</b> <b>Critical: Y</b>	Slowly turn the Trip Check Adjust knob clockwise until the Upscale trip is activated, then verify the following: (a) The HIGH light on the front panel of the ARM Indicator and Trip Unit turns on. (b) The corresponding ARM Upscale Trip Annunciator on 1C04B or 1C35A is activated (see Appendix 2 for a listing of ARM annunciators). (c) The Upscale Trip Setpoint is approximately the same as that provided by the Health Physics Department (Appendix 1 is a representative setpoint).
<b>Standard:</b>	Operator will slowly turn the Trip Check Adjust knob clockwise until the Upscale trip is activated, then verify the following: (a) The HIGH light on the front panel of the ARM Indicator and Trip Unit turns <u>on at approximately 10 mR/Hr</u> (b) The corresponding ARM Upscale Trip Annunciator on 1C35A is activated (c) The Upscale Trip Setpoint is approximately the same as that provided by the Health Physics Department
<b>Evaluator Cue:</b>	When it is observed that the HIGH light on the front panel of ARM RI-9163, Reactor Building North End Refuel Floor is lit, <u>AND</u> at the request of the Operator, REPORT: <u>“REFUELING FLOOR NORTH END HI RADIATION (1C35A, A-1) annunciator is activated.”</u>  If contacted as the Health Physics Department, REPORT: <u>“Appendix 1 provides the correct setpoint for ARM RI-9163, Reactor Building North End Refuel Floor UPSCALE TRIP setpoint.”</u>
<b>Evaluator Note:</b>	The CRITICAL STEP is to adjust the Trip Check Adjust knob clockwise until the Upscale trip is activated.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	



<b>Performance Step:</b> Sec. 6.0, Step (10) Critical: N	Position the Trip Check Adjust Knob such that the indication on the ARM Indicator and Trip Unit is between the Downscale and Upscale Trip Setpoints.
<b>Standard:</b>	Operator will position the Trip Check Adjust Knob such that the indication on the ARM Indicator and Trip Unit is between the Downscale and Upscale Trip Setpoints.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (11) Critical: N	Depress the RESET pushbutton on the ARM being tested, then verify the following: (a) The HIGH light on the front panel of the Indicator and Trip Unit turns OFF. (b) The corresponding ARM Upscale Trip Annunciator on 1C35A resets.
<b>Standard:</b>	Operator will depress the RESET pushbutton on the ARM being tested, then verify the following: (a) The HIGH light on the front panel of the Indicator and Trip Unit turns OFF. (b) The corresponding ARM Upscale Trip Annunciator on 1C04B or 1C35A resets.
<b>Evaluator Cue:</b>	Once the HIGH light on the front panel of the Indicator and Trip Unit turns OFF, <u>AND</u> at the request of the Operator, REPORT: <b><u>“REFUELING FLOOR NORTH END HI RADIATION (1C35A, A-1) annunciator is reset.”</u></b>
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step NOTE Critical: N	<b><u>NOTE</u></b> The Downscale Trip Setpoints are listed in Appendix 1. This setpoint is adjusted by the Instrument Technicians during calibration and is based on the type of Indicator and Trip Unit that the ARM uses.
<b>Standard:</b>	Operator will placekeep NOTE.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (12) Critical: Y	Slowly turn the Trip Check Adjust Knob counter-clockwise until the downscale trip is activated, then verify the following: (a) The LOW light on the front panel of the ARM Indicator and Trip Unit turns ON (b) The Downscale Trip Setpoint is approximately the same as that listed in Appendix 1
<b>Standard:</b>	Operator will slowly turn the Trip Check Adjust Knob counter-clockwise until the downscale trip is activated, then verify the following: (a) The LOW light on the front panel of the ARM Indicator and Trip Unit turns ON (b) The Downscale Trip Setpoint is approximately <u>0.01 mR/Hr</u>
<b>Evaluator Note:</b>	The CRITICAL STEP is to adjust the Trip Check Adjust knob counter-clockwise until the downscale trip is activated.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (13) Critical: N	<b>Position the Trip Check Adjust Knob such that the indication on the ARM Indicator and Trip Unit is between the Downscale and Upscale Trip Setpoints.</b>
<b>Standard:</b>	<b>Operator will position the Trip Check Adjust Knob such that the indication on the ARM Indicator and Trip Unit is between the Downscale and Upscale Trip Setpoints.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (14) Critical: N	<b>Depress the RESET pushbutton on the ARM being tested and verify that the LOW light turns OFF.</b>
<b>Standard:</b>	<b>Operator will depress the RESET pushbutton on the ARM being tested and verify that the LOW light turns OFF.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> Sec. 6.0, Step (15) Critical: Y	<b>Return the Mode Selector Switch for the ARM being tested to the OPERATE position.</b>
<b>Standard:</b>	<b>Operator will return the Mode Selector Switch for the ARM being tested to the OPERATE position</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>Sec. 6.0, Step (16)</b> <b>Critical: N</b>	<b>Depress the RESET pushbutton and verify that the ARM DNSCL/INOP (1C04B, C-7) annunciator is reset.</b>
<b>Standard:</b>	<b>Operator will depress the RESET pushbutton and verify that the ARM DNSCL/INOP (1C04B, C-7) annunciator is reset.</b>
<b>Evaluator Cue:</b>	<b>Once the RESET pushbutton is depressed on the front panel of the Indicator and Trip Unit turns OFF, <u>AND</u> at the request of the Operator, REPORT: <u>"ARM DNSCL/INOP (1C04B, C-7) annunciator is reset."</u></b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

**Terminating Cues:**      Once the page announcement is made that ARM testing is complete.

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:**      \_\_\_\_\_

**Examinee:** \_\_\_\_\_

**Evaluator:** \_\_\_\_\_

☐ RO ☐ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT

Date: \_\_\_\_\_

☐ LOIT RO      ☐ LOIT SRO

### PERFORMANCE RESULTS:

**SAT:**

**UNSAT:**

**Remediation required:**

**YES** | ☐

NO	
----	--

**COMMENTS/FEEDBACK:** (Comments shall be made for any steps graded unsatisfactory).

**EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_

*NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.*

## TURNOVER SHEET

The initial conditions that I read may not **exactly** match the simulator setup; assume that the conditions that I read you are **the correct** plant conditions.

### INITIAL CONDITIONS:

- The initial conditions that I read may not exactly match the simulator setup, assume that the conditions that I read you are the correct plant conditions
- RI-9163, Reactor Building North End Refuel Floor ARM was de-energized for approximately two hours on the previous shift
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

### INITIATING CUES (IF APPLICABLE):

- The CRS directs you to coordinate the performance of the downscale/upscale trip setpoint check on ARM RI-9163, Reactor Building North End Refuel Floor ARM, ONLY, with the front panel Operator, in accordance with OI-879.2, Area Radiation Monitoring System

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

# JOB PERFORMANCE MEASURE

**JPM TITLE:** SWITCH CRD PUMP DISCHARGE FILTERS

**JPM NUMBER:** 201001-03

**REV.** 15

**TASK NUMBER(S) / TASK TITLE(S):** NSPEO 255-0403/  
Switch CRD Pump Discharge Filters

**K/A NUMBERS:** 201001 A2.02 **K/A VALUE:** 3.2 / 3.3

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☒ Non-Lic ☒ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☒ Perform: ☐

**EVALUATION LOCATION:** In-Plant: ☒ Control Room: ☐  
Simulator: ☐ Other: ☐  
Lab: ☐

Time for Completion: 15 Minutes Time Critical: NO

Alternate Path [NRC]: NO

Alternate Path [INPO]: NO

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date



## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE

[illegible]

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

SIMULATOR SETUP INSTRUCTIONS: None

SIMULATOR MALFUNCTIONS: None

SIMULATOR OVERRIDES: None

SIMULATOR REMOTE FUNCTIONS: None

**Required Materials:**

- OI 255, Control Rod Drive Hydraulic System, current revision

**General References:**

- OI 255, Control Rod Drive Hydraulic System, Rev. 97

**Task Standards:** When required due to plant conditions or evolutions, the Operator will place the Standby Discharge Filter in service for the Control Rod Drive System in accordance with OI 255, Control Rod Drive Hydraulic System

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

The initial conditions that I read may not **exactly** match the plant configuration; assume that the conditions that I read you are **the correct** plant conditions.

**INITIAL CONDITIONS:**

- During review of the NSPEO logs, the NLO identified that the reading on the PDIS 1812, CRD Discharge Filter  $\Delta P$  is reading 11 psid and initiated a WO to change the filter
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**INITIATING CUES (IF APPLICABLE):**

- The Control Room Supervisor directs you to place the standby CRD discharge filter 1F-201B[A] into service in accordance with OI 255, Control Rod Drive Hydraulic System
- The Control Room Supervisor has authorized the use of torque amplifying devices to operate valves, as required

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

### JPM PERFORMANCE INFORMATION

Start Time: \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance step:</b> <b>OI 255, Sec 6.3.1, Caution</b> <b>Critical: N</b>	<b>CAUTION</b> Since the CRD Pump Discharge Filters are normally pressurized to 1500 psig, valve operations should be performed carefully.
<b>Standard:</b>	<b>Operator will placekeep the CAUTION</b>
<b>Evaluator Cue:</b>	<b>Provide the candidate the printed copy of OI 255, Control Rod Drive Hydraulic System</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 255, Sec 6.3.1, Step 1</b> <b>Critical: N</b>	Verify the following valve positions for standby CRD Pump Discharge Filter 1F-201B:  Inlet Isolation Valve V-17-14[13]                      OPEN Outlet Isolation Valve V-17-22[21]                      CLOSED
<b>Standard:</b>	<b>Simulates rotating V-17-14[13] handwheel clockwise (CLOSE), verifies rotation, and simulates rotating handwheel fully counter clockwise (OPEN). Also could verify position of the rising stem gate valve initially down and as the valve is opened, the rising stem rises. Simulates rotating V-17-22[21] clockwise and verifies rotation does not occur. Also could verify the rising stem gate valve rising stem is fully down.</b>
<b>Evaluator Cue:</b>	<b>When the student asks about valve response, inform the operator of valve movements based on above standard and operators actions (hand wheel turns in that direction, etc).</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 255, Sec 6.3.1, Step 2.a</b> <b>Critical: Y</b>	(2) Vent Filter 1F-201B[A] as follows: (a) Open Combined Vent/Drain Line Isolation V-17-20[17]
<b>Standard:</b>	<b>Operator will simulate opening V-17-20[17]</b>
<b>Evaluator Cue:</b>	<b>When asked and the student demonstrates moving the valve handwheel in the counter clockwise direction (OPEN), inform the student that the valve turns in the CCW direction for a while then stops.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 255, Sec 6.3.1, Step 2.b</b> <b>Critical: Y</b>	(2) Vent Filter 1F-201B[A] as follows: (b) Crack open CRD Pump Discharge Filter 1F-201B[A] Vent Valve V-17-18[15] and vent as necessary
<b>Standard:</b>	<b>Operator will simulate cracking open 1F-201B Vent Valve V-17-18(15)</b>
<b>Evaluator Cue:</b>	<b>When asked and the student demonstrates turning valve handwheel CCW, inform student that the valve turns in the CCW direction. If asked, inform the student that flow noise was erratic but is now constant.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 255, Sec 6.3.1, Step 2.c</b> <b>Critical: Y</b>	(2) Vent Filter 1F-201B[A] as follows: (c) Close V-17-18[15]
<b>Standard:</b>	<b>Operator will simulate closing V-17-18(15)</b>
<b>Evaluator Cue:</b>	<b>When asked and the student demonstrates turning the valve handwheel CW, inform the operator the valve turns in the CW direction until it stops. After the valve is closed and when asked, inform the student that flow noise has stopped.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 255, Sec 6.3.1, Step 2.d</b> <b>Critical: Y</b>	(2) Vent Filter 1F-201B[A] as follows: (d) Close V-17-20[17]
<b>Standard:</b>	<b>Operator will simulate closing V-17-20(17)</b>
<b>Evaluator Cue:</b>	<b>When asked and the student demonstrates the valve handwheel CW, inform the student that the valve turns in the CW direction until it stops.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 255, Sec 6.3.1, CRS</b> <b>Critical: N</b>	<b><u>CONTINUOUS RECHECK STATEMENT</u></b> <b>IF</b> PDIS-1812 CRD Pump Discharge Filter High Diff Pressure rises while transferring to the standby filter, <b>THEN</b> stop the evolution, and inform the CRS.
<b>Standard:</b>	<b>Operator will placekeep the Continuous Recheck Statement</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	



<b>Performance step:</b> <b>OI 255, Sec 6.3.1, Step 3</b> <b>Critical: Y</b>	Slowly open Outlet Isolation Valve V-17-22[21]
<b>Standard:</b>	Operator will slowly open Outlet Isolation Valve V-17-22[21]
<b>Evaluator Cue:</b>	If asked, inform the operator PSIS-1812 lowers during the transfer. Provide lowering values down to 4 psid as necessary. If asked and the operator demonstrates turning the valve handwheel CCW, inform the operator the valve turned CCW until it stopped. The stem has risen.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 255, Sec 6.3.1, Step 4</b> <b>Critical: Y</b>	Slowly close Outlet Isolation Valve V-17-21[22]
<b>Standard:</b>	Operator will slowly close Outlet Isolation Valve V-17-21[22]
<b>Evaluator Cue:</b>	When asked and the student demonstrates turning the valve handwheel Clockwise (CW), inform the student the valve turned CW until it stopped. The stem has gone down.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

<b>Performance step:</b> <b>OI 150 QRC 1, (7)</b> <b>Critical: N</b>	At 1C05, verify that CRD System flow is 40 gpm and drive water pressure is approximately 260 psid as indicated on FI-1814 CRD SYSTEM FLOW and PDI-1825A (CRD PRESSURE) DRIVE WATER $\Delta P$ , respectively.
<b>Standard:</b>	<b>Operator will contact a control room operator to verify system flow of 40 GPM and drive water pressure of approximately 260 psid. (simulated)</b>
<b>Evaluator Cue:</b>	<b>When contacted, acknowledge communication as the control room operator and inform the operator that CRD system flow is 40 gpm and drive water <math>\Delta P</math> is about 260 psid.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

**Terminating Cues:** After the control room is contacted verifying proper system parameters, inform the student that this JPM is complete.

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_



Examinee: \_\_\_\_\_

Evaluator: \_\_\_\_\_

☐ RO ☐ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT

Date: \_\_\_\_\_

☐ LOIT RO ☐ LOIT SRO

PERFORMANCE RESULTS:

SAT:

UNSAT:

Remediation required:

YES

NO

**COMMENTS/FEEDBACK:** (Comments shall be made for any steps graded unsatisfactory).


**EXAMINER NOTE:** ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES CLEANED, AS APPROPRIATE.

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_

*NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.*

## TURNOVER SHEET

The initial conditions that I read may not **exactly** match the plant configuration; assume that the conditions that I read you are **the correct** plant conditions.

### INITIAL CONDITIONS:

- During review of the NSPEO logs, the NLO identified that the reading on the PDIS 1812, CRD Discharge Filter  $\Delta P$  is reading 11 psid and initiated a WO to change the filter
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

### INITIATING CUES (IF APPLICABLE):

- The Control Room Supervisor directs you to place the standby CRD discharge filter 1F-201B[A] into service in accordance with OI 255, Control Rod Drive Hydraulic System
- The Control Room Supervisor has authorized the use of torque amplifying devices to operate valves, as required

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

# JOB PERFORMANCE MEASURE

**JPM TITLE:**                      **PERFORM "A" SBDG STANDBY/READINESS CONDITION CHECKLIST (AP) [STARTING DIESEL AIR COMPRESSOR]**

**JPM NUMBER:**                      **264000-13**    **REV. 0**

**TASK NUMBER(S) / TASK TITLE(S):**                      **NSPEO 26.05 / Assist with Diesel Generator Operability Test**

**K/A NUMBERS:**                      **264000**    **K/A VALUE: 3.9 / 4.0**

**Justification (FOR K/A VALUES <3.0):**    **N/A**

**TASK APPLICABILITY:**  
☒ **RO**   ☒ **SRO**   ☐ **STA**   ☒ **Non-Lic**   ☐ **SRO CERT**   ☐ **OTHER:** \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:**                      Simulate/Walkthrough: ☒    Perform: ☐

**EVALUATION LOCATION:**    In-Plant: ☒                      Control Room: ☐  
   Simulator: ☐                      Other: ☐  
   Lab: ☐

Time for Completion:    20    Minutes    Time Critical:    NO

Alternate Path [NRC]:    YES

Alternate Path [INPO]:    YES

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

### JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

<b>REVIEW STATEMENTS</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered “YES” or “N/A” or the JPM is not valid for use. If all questions/statements are answered “YES” or “N/A,” then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE

#	DESCRIPTION OF CHANGE	REASON FOR CHANGE	AR/TWR#	PREPARER	DATE
				SUPERVISOR	DATE
0.0	New for PDA 19-1 LOIT NRC Exam			See cover	
				See cover	

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

SIMULATOR SETUP INSTRUCTIONS: NONE

SIMULATOR MALFUNCTIONS: NONE

SIMULATOR OVERRIDES: NONE

SIMULATOR REMOTE FUNCTIONS: NONE

**JPM STUDENT HANDOUT SET-UP:**

Have available for the Operator the following:

- OI 324A10, SBDG Standby/Readiness Condition Checklist, and markup the following:
  - Fill in the blank to designate that “**1G- 31**” is to be performed
  - Fill in a signature for the partial completion of the checklist
  - Fill in the authorizing Control Room Supervisor with “TODAY” for the date
  - Fill in the first “Discrepancy/Problem” with “NONE”
  - Fill in a signature by the “Completed by:” with “TODAY” for date and “NOW” for the time
  - Place check marks under the column “Yes” with the specific exceptions
    - For Lube Oil Temp TI-3278A log “131°F”
    - For 1G-31 (A SBDG) Governor settings log “20.72”
    - For 1G-21 (B SBDG) Governor settings log “N/A”
- OI 324, Standby Diesel Generator System section for Charging the Diesel Driven Starting Air Flasks using Starting Air Compressor 1K-10C
- ARP 1C93 (C-2), Starting Air Pressure-LOW

**Required Materials:**

- OI 324, Standby Diesel Generator System
- OI 324A10, SBDG Standby/Readiness Condition Checklist
- ARP 1C93, Diesel Generator 1G31

**General References:**

- OI 324, Standby Diesel Generator System, Rev. 124
- OI 324A10, SBDG Standby/Readiness Condition Checklist, Rev. 20
- ARP 1C93, Diesel Generator 1G31, Rev. 54

**Task Standards:**

When directed to evaluate the Standby Diesel Generator (SBDG) standby readiness condition, the Operator will determine the SBDG standby readiness condition by completing OI 324A10, Standby/Readiness Condition Checklist and correcting any deficiencies identified



I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

The initial conditions that I read may not **exactly** match the plant configuration; assume that the conditions that I read you are **the correct** plant conditions.

**INITIAL CONDITIONS:**

- AOP 304, Grid Instability, has been entered do to degrading grid voltages
- An Operator was in the process of performing OI 324A10, SBDG Standby/Readiness Condition Checklist, for the “A” SBDG (1G-31) when they were called away due to sickness

**INITIATING CUES (IF APPLICABLE):**

- The Control Room Supervisor has directed you to finish of OI 324A10, SBDG Standby/Readiness Condition Checklist already in progress starting at 1C91

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

### JPM PERFORMANCE INFORMATION

Start Time: \_\_\_\_\_

**NOTE:** When providing “Evaluator Cues” to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee’s actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a “Y” below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance Step:</b> <b>OI 324A10, 1C91</b> <b>Critical: <u>N</u></b>	<b>At 1C91</b> Cooling Water Temp.-TI-3258A 100°F - 140°F.
<b>Standard:</b>	Verifies Cooling Water Temp on TI-3258A is between 100°F - 140°F.
<b>Evaluator Cue:</b>	<b>Cue the Operator that the Cooling Water Temp on TI-3258A is as they see it.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 324A10, Air Tanks</b> <b>Critical: <u>N</u></b>	<b>At Starting Air Tanks</b> 1T-115A Normal Starting Air Pressure (Electric Air Compressor) – PI-3221A between 190 - 235 psig.
<b>Standard:</b>	Verifies that Motor Driven Starting Air Pressure -PI-3221A is between 190 - 235 psig.
<b>Evaluator Cue:</b>	<b>Cue the Operator that the Motor Driven Starting Air Pressure – PI-3221A is as they see it.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 324A10, Air Tanks</b> <b>Critical: <u>N</u></b>	<b>At Starting Air Tanks</b> 1T-116A Normal Starting Air Pressure (Electric Air Compressor) – PI-3222A between 195 - 235 psig.
<b>Standard:</b>	Verifies that Motor Driven Starting Air Pressure -PI-3222A is between 195 - 235 psig.
<b>Evaluator Cue:</b>	<b>Cue the Operator that the Motor Driven Starting Air Pressure – PI-3222A is as they see it.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 324A10, Air Tanks</b> <b>Critical: <u>Y</u></b>	<b>At Starting Air Tanks</b> 1T-117A Normal Starting Air Pressure (Diesel Air Compressor) – PI-3223A Between 180 - 245 psig
<b>Standard:</b>	Verifies that Diesel Driven Starting Air Pressure -PI-3223A is between 180 - 245 psig.
<b>Evaluator Cue:</b>	<b>[ALTERNATE PATH BEGINS HERE]</b>  <b>Cue the Operator that the Diesel Driven Starting Air Pressure - PI-3223A is reading 170 psig.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 324A10, Air Tanks</b> <b>Critical: <u>N</u></b>	Operator will call the CRS and perform ARP 1C93 (C-2), Starting Air Pressure-Low.
<b>Standard:</b>	CRS notified and actions of ARP 1C93 (C-2) are being performed.
<b>Evaluator Cue:</b>	<b>If Operator looks at 1C93 OR when the Operator sees the lower pressure on PI 3223A and then goes to 1C93, CUE them that Annunciator 1C93 (C-2) is alarming.</b>  <b>When the Operator references the 1C93 ARP, PROVIDE a copy of ARP 1C93 (C-4), Starting Air Pressure-Low</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step: 19</b> <b>ARP 1C93, 3.1</b> <b>Critical: <u>N</u></b>	At 1C91, confirm the low air pressure condition by monitoring Starting Air Pressure PI-3256A for the Diesel Air Compressor 1K-10C.
<b>Standard:</b>	Operator will confirm the reading is below 175 psig at PI-3256A.
<b>Evaluator Cue:</b>	<b>Cue the Operator that the pressure as read on PI 3256A is reading 170 psig.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step: 20</b> <b>ARP 1C93, 3.2</b> <b>Critical: N</b>	Notify the Control Room Operator of the low starting air pressure condition on the affected system.
<b>Standard:</b>	<u>Unless already performed earlier</u> , Operator will notify the Control Room Operator of the low starting air pressure condition on the affected system.
<b>Evaluator Cue:</b>	<b>Respond as the Control Room Supervisor and CUE the Operator to take the actions of the procedures.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>ARP 1C93, 3.3</b> <b>Critical: N</b>	If starting air pressure is < 180 psig as indicated on PI-3253A, perform the following: a. Verify AC Air Comp 1K-10A Control Switch (HS-3224A) in the AUTO position b. At 1G-312, verify AC Compressor 1K-10A Bkr CB-8 on/reset c. Verify the thermal overload on 1K-10A reset d. If local control of AC Compressor 1K-10A is necessary, place AC Air Compressor 1K-10A Control Switch (HS-3224A) to the MANUAL position to build the air pressure up to normal (~225 psig) then return to AUTO. e. If 1K-10A is not available cross-connect 1T-117A and 1T-116A per OI 324 Section 12.1.
<b>Standard:</b>	<b>Operator will placekeep this step with “N/A.”</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>ARP 1C93, 3.4</b> <b>Critical <u>N</u></b>	If starting air pressure is < 175 psig as indicated on PI-3256A, perform the following: a. Start Diesel compressor 1K-10C as necessary by performing Section 8.7 of OI 324, Charging The Diesel Driven Starting Air Flask.
<b>Standard:</b>	<b>Operator will perform Section 8.7 of OI 324, Charging the Diesel Driven Starting Air Flask</b>
<b>Evaluator Cue:</b>	<b>When the Operator states that they need OI 324, PROVIDE the Operator with a copy of OI 324, Standby Diesel Generator System, and state that, “ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED”</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step: 21</b> <b>OI 324, Sect 8.7, (1)(a)</b> <b>Critical <u>N</u></b>	Verify the following for the diesel-driven Starting Air Compressor 1K-10C: (a) Diesel engine lube oil level between the F and L marks on the local dipstick.
<b>Standard:</b>	Operator will verify the diesel engine lube oil level between the F and L marks on the local dipstick
<b>Evaluator Cue:</b>	<b>When the Operator simulates pulling the 1K-10C oil dipstick, CUE them that they see the oil level between the F and L marks.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 324, Sect 8.7, (1)(b)</b> <b>Critical <u>N</u></b>	Compressor lube oil is between the two marks on the local dipstick.
<b>Standard:</b>	Operator will verify the compressor lube oil is between the two marks on the local dipstick.
<b>Evaluator Cue:</b>	<b>When the Operator simulates pulling the compressor lube oil dipstick, CUE them that they sees the oil level between the two marks.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 324, Sect 8.7, (1)(c)</b> <b>Critical <u>Y</u></b>	Ensure clutch is disengaged.
<b>Standard:</b>	Operator will ensure clutch is disengaged.
<b>Evaluator Note:</b>	<b>Clutch is disengaged by simulating the movement of the level to the disengage position.</b>
<b>Evaluator Cue:</b>	<b>After the Operator states what they are going to do, CUE them that the clutch lever is where they said they would place it.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

### **NOTE**

When transferring fuel oil, it may be necessary to block the diesel day tank room door open to avoid pinching the fuel oil transfer hose.  
A door stop rod is stored in the metal cabinet just outside of the SBDG rooms to assist in blocking the door open.  
Door 133 is a fire door, which requires a FPIR or constant attendance by the operator.

<b>Performance Step:</b> <b>OI 324, Sect 8.7, (2)</b> <b>Critical <u>N</u></b>	If necessary to add fuel to fuel tank 1T-477, perform the following substeps. Otherwise, mark substeps N/A.
<b>Standard:</b>	Operator will placekeep this step with “N/A.”
<b>Evaluator Note:</b>	To determine if the fuel tank has sufficient fuel would require the Operator to remove the cap of the fuel tank.
<b>Evaluator Cue:</b>	If the Operator asks, CUE them that the tank is full.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	

**NOTE**

Engine will not start with the clutch engaged.

<b>Performance Step:</b> <b>OI 324, Sect 8.7, (3)</b> <b>Critical <u>Y</u></b>	Depress and hold down tattletale button. Press down start switch and release when engine starts.
<b>Standard:</b>	Operator will depress and hold down tattletale button. Press down start switch and release when engine starts.
<b>Evaluator Cue:</b>	<b>CUE the Operator that the Tattletale button is depressed in the down position and when the start switch is pressed down to the start position.</b>  <b>CUE the Operator that they hears the Diesel Air Compressor start.</b>
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY _____
<b>Comments:</b>	



<b>Performance Step:</b> <b>OI 324, Sect 8.7, (4)</b> <b>Critical: <u>N</u></b>	When engine is running, release tattletale button.
<b>Standard:</b>	When cued that the engine is running, the Operator will release the tattletale button.
<b>Evaluator Cue:</b>	<b>CUE that the tattletale button has released.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 324, Sect 8.7, (5)</b> <b>Critical: <u>Y</u></b>	Engage clutch to start air compressor.
<b>Standard:</b>	Operator will engage clutch to start air compressor.
<b>Evaluator Cue:</b>	<b>When the Operator states how they will engage the clutch, CUE the Operator that the clutch is as they describe.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 324, Sect 8.7, (7)</b> <b>Critical: N</b>	Observe that compressor 1K-10C automatically stops at approximately 235 psig as indicated on PI-3256A, if not perform Step (7).
<b>Standard:</b>	Operator will observe that compressor 1K-10C to ensure that it will automatically stop at approximately 235 psig as indicated on PI-3256A
<b>Evaluator Cue:</b>	<b>When the Operator states that they will watch the Diesel Air Compressor flask pressure to verify that the compressor will secure at about 235 psig, CUE them that the compressor has automatically secured and the pressure is holding steady at 235 psig.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY _____</b>
<b>Comments:</b>	

**Terminating Cues:**      **When the Operator continues to the “at engine” section, inform them that the JPM is complete.**

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_



## TURNOVER SHEET

The initial conditions that I read may not **exactly** match the plant configuration; assume that the conditions that I read you are **the correct** plant conditions.

### INITIAL CONDITIONS:

- AOP 304, Grid Instability, has been entered do to degrading grid voltages
- An Operator was in the process of performing OI 324A10, SBDG Standby/Readiness Condition Checklist, for the "A" SBDG (1G-31) when they were called away due to sickness

### INITIATING CUES (IF APPLICABLE):

- The Control Room Supervisor has directed you to finish of OI 324A10, SBDG Standby/Readiness Condition Checklist already in progress starting at 1C91

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

# JOB PERFORMANCE MEASURE

**JPM TITLE:** STARTUP THE "A" [B] RPS MOTOR GENERATOR SET FROM THE ESSENTIAL SWITCHGEAR ROOM

**JPM NUMBER:** 212000-01 **REV.** 7

**TASK NUMBER(S) / TASK TITLE(S):** 27.01 / STARTUP AN RPS MG SET

**K/A NUMBERS:** 212000 K2.01 **K/A VALUE:** 3.2 / 3.3

**Justification (FOR K/A VALUES <3.0):** N/A

**TASK APPLICABILITY:**

☒ RO ☒ SRO ☐ STA ☒ Non-Lic ☒ SRO CERT ☐ OTHER: \_\_\_\_\_

**APPLICABLE METHOD OF TESTING:** Simulate/Walkthrough: ☒ Perform: ☐

**EVALUATION LOCATION:** In-Plant: ☒ Control Room: ☐  
Simulator: ☐ Other: ☐  
Lab: ☐

Time for Completion: 20 Minutes Time Critical: NO

Alternate Path [NRC]: NO

Alternate Path [INPO]: NO

<b>Developed by:</b>	_____	_____
	Instructor/Developer	Date
<b>Reviewed by:</b>	_____	_____
	Instructor (Instructional Review)	Date
<b>Validated by:</b>	_____	_____
	SME (Technical Review)	Date
<b>Approved by:</b>	_____	_____
	Training Supervision	Date
<b>Approved by:</b>	_____	_____
	Training Program Owner	Date

## JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

**ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED PRIOR TO USE.**

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the JPM been reviewed and validated by SMEs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the performance steps accurately reflect trainee's actions in accordance with plant procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Has the completion time been established based on validation data or incumbent experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the job level appropriate for the task being evaluated if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the K/A appropriate to the task and to the licensee level if required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Is justification provided for tasks with K/A values less than 3.0?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have the performance steps been identified and classified (Critical / Sequence / Time Critical) appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are all references identified, current, accurate, and available to the trainee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are all critical steps supported by procedural guidance? (e.g., if licensing, EP or other groups were needed to determine correct actions, then the answer should be NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. If the JPM is to be administered to an LOIT student, has the required knowledge been taught to the individual prior to administering the JPM? TPE does not have to be completed, but the JPM evaluation may not be valid if they have not been taught the required knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

All questions/statements must be answered "YES" or "N/A" or the JPM is not valid for use. If all questions/statements are answered "YES" or "N/A," then the JPM is considered valid and can be performed as written. The individual(s) performing the initial validation shall sign and date the cover sheet.

**Protected Content:** (CAPRs, corrective actions, licensing commitments, etc. associated with this material)

{C001} NONE

[illegible]

**SIMULATOR SET-UP:** *(Only required for simulator JPMs)*

SIMULATOR SETUP INSTRUCTIONS: NONE

SIMULATOR MALFUNCTIONS: NONE

SIMULATOR OVERRIDES: NONE

SIMULATOR REMOTE FUNCTIONS: NONE

**Required Materials:** OI 358, Reactor Protection System

**General References:** OI 358, Reactor Protection System, Rev. 70

**Task Standards:** When directed to startup the A[B] RPS Motor Generator Set, the Operator will startup the directed RPS Motor Generator Set in accordance with OI 358, Reactor Protection System



I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

**DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.**

The initial conditions that I read may not **exactly** match the plant configuration; assume that the conditions that I read you are **the correct** plant conditions.

**INITIAL CONDITIONS:**

- The A[B] RPS MG Set was secured for maintenance work
- The maintenance work is complete and the A[B] RPS MG Set is available to be restore to operation
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

**INITIATING CUES (IF APPLICABLE):**

- The Control Room Supervisor directs you to perform the in-plant actions to start up the A[B] RPS MG Set in accordance with OI 358, Reactor Protection System, Section 3.2, Startup of A[B] RPS Motor Generator Set 1G-51[1G-61]
- The Control Room Supervisor has provided you with the necessary keys

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

**NOTE: This JPM is written to be able to perform either RPS MG Startup, depending on protected equipment.**

### JPM PERFORMANCE INFORMATION

**Start Time:** \_\_\_\_\_

**NOTE:** When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

**NOTE:** Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

<b>Performance Step:</b> <b>OI 358, 3.2 (1)</b> <b>Critical: <u>N</u></b>	Verify the A[B] RPS MG set motor supply circuit breaker 1B3211 [1B4216] is closed by observing that the GREEN (MOTOR OFF) light on 1G51 [1G61] is ON.
<b>Standard:</b>	Operator will verify 1B3211 [1B4216] is closed and Green Light is ON.
<b>Evaluator Cue:</b>	If asked, CUE that the GREEN light is ON.  If Operator checks 1B3211 [1B4216] is ON, CUE the Operator that it is closed.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (2) (a)</b> <b>Critical: <u>N</u></b>	On the RPS MG Set Electrical Protection Assembly EPA-A1 [EPA-B1], verify the following: (a) The circuit breaker is in the OFF position
<b>Standard:</b>	Operator will verify the circuit breaker is in the OFF position (position would be down).
<b>Evaluator Cue:</b>	If asked, CUE the Operator that the breaker is as they have stated it.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (2) (b)</b> <b>Critical: <u>N</u></b>	The EPA-A1 [EPA-B1] MAINTENANCE/TEST keylock switch EPA-A1-S1 [EPA-B1-S1] is in the NORMAL position.
<b>Standard:</b>	<b>Operator will verify the keylock switch verified in the NORMAL position.</b>
<b>Evaluator Note:</b>	<b>Keylock switch should be in NORMAL, key removed.</b>
<b>Evaluator Cue:</b>	<b>If asked, CUE the Operator that the keylock switch is in the position as they have stated.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (2) (c)</b> <b>Critical: <u>N</u></b>	The EPA-A1 [EPA-B1] TRIP/RESET keylock switch EPA-A1-S2 [EPA-B1-S2] is in the OPER position.
<b>Standard:</b>	<b>Operator will verify the keylock switch verified in the OPER position.</b>
<b>Evaluator Note:</b>	<b>Keylock switch should be in OPER, key removed.</b>
<b>Evaluator Cue:</b>	<b>If asked, CUE the Operator that the keylock switch is in the position as they have stated.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (3) (a)</b> <b>Critical: <u>N</u></b>	On the RPS MG Set Electrical Protection Assembly EPA-A2 [EPA-B2], verify the following: (a) The circuit breaker is in the OFF position.
<b>Standard:</b>	<b>Operator will verify the circuit breaker is in the OFF position (position would be down).</b>
<b>Evaluator Cue:</b>	<b>If asked, CUE the Operator that the breaker is in the position as they have stated.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (3) (b)</b> <b>Critical: <u>N</u></b>	The EPA-A2 [EPA-B2] MAINTENANCE/TEST keylock switch EPA-A2-S1 [EPA-B2-S1] is in the NORMAL position.
<b>Standard:</b>	<b>Operator will verify the keylock switch verified in the NORMAL position.</b>
<b>Evaluator Note:</b>	<b>Keylock switch should be in NORMAL, key removed.</b>
<b>Evaluator Cue:</b>	<b>If asked, CUE the Operator that the keylock switch is in the position as they have stated.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> OI 358, 3.2 (3) (c) Critical: <u>N</u>	The EPA-A2 [EPA-B2] TRIP/RESET keylock switch EPA-A2-S2 [EPA-B2-S2] is in the OPER position.
<b>Standard:</b>	Operator will verify the keylock switch verified in the OPER position.
<b>Evaluator Note:</b>	Keylock switch should be in OPER, key removed.
<b>Evaluator Cue:</b>	If asked, CUE the Operator that the keylock switch is in the position as they have stated.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> OI 358, 3.2 (4) Critical: <u>Y</u>	On 1G51 [1G61], press and momentarily hold the MG set A [B] MOTOR ON button.
<b>Standard:</b>	Operator will <u>SIMULATE</u> momentarily depressing the MOTOR ON push-button at Panel 1G51 [1G61].
<b>Evaluator Cue:</b>	If asked, CUE that the MG set is observed to start and is coming up to speed.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (4) (a) – (d)</b> <b>Critical <u>N</u></b>	Observe the following indications: (a) RED (MOTOR ON) indicating light turns ON (b) GREEN (MOTOR OFF) indicating light turns OFF (c) MG set accelerates to set speed (d) 120 VAC is indicated on the RPS M-G SET A[B] OUTPUT VOLTAGE meter EI-1G051 [EI-1G061]
<b>Standard:</b>	The Operator will verify the following indications: <ul style="list-style-type: none"> <li>• RED (MOTOR ON) indicating light turns <u>ON</u></li> <li>• GREEN (MOTOR OFF) indicating light turns <u>OFF</u></li> <li>• MG set accelerates to set speed</li> <li>• <u>120 VAC</u> is indicated on the RPS M-G SET A[B] OUTPUT VOLTAGE meter EI-1G051 [EI-1G061]</li> </ul>
<b>Evaluator Note:</b>	There will be negligible amps displayed on the RPS MG Set until control room actions are taken at 1C15 [1C17].  There will be approximately 120 VAC indicated on EI1G051 [EI-1G061] when the RPS MG Set reaches its operating speed.
<b>Evaluator Cue:</b>	If asked, CUE the Operator: <ul style="list-style-type: none"> <li>• RED (MOTOR ON) indicating light turns <u>ON</u></li> <li>• GREEN (MOTOR OFF) indicating light turns <u>OFF</u></li> <li>• <u>120 VAC</u> is indicated on the RPS M-G SET</li> </ul>
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (5)</b> <b>Critical: <u>N</u></b>	On EPA-A1 [EPA-B1], observe that: <ul style="list-style-type: none"> <li>• POWER IN light is ON</li> <li>• POWER OUT light is OFF</li> </ul>
<b>Standard:</b>	<b>Operator will verify that POWER IN light is observed to be ON and the POWER OUR light is OFF.</b>
<b>Evaluator Cue:</b>	If asked, CUE the Operator that the POWER IN light is <u>ON</u> . If asked, CUE the Operator that the other lights are <u>OFF</u> .
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (6)</b> <b>Critical: <u>N</u></b>	On EPA-A1 [EPA-B1], verify status of the following lights: <ul style="list-style-type: none"> <li>• OVER-VOLTAGE</li> <li>• UNDER-VOLTAGE</li> <li>• UNDER-FREQUENCY</li> </ul>
<b>Standard:</b>	<b>Operator will verify the status of the following lights on EPA-A1 [EPA-B1]:</b> <ul style="list-style-type: none"> <li>• OVER-VOLTAGE</li> <li>• UNDER-VOLTAGE</li> <li>• UNDER-FREQUENCY</li> </ul>
<b>Evaluator Cue:</b>	If asked, CUE the Operator that the OVER-VOLTAGE, UNDER-VOLTAGE, and/or UNDER-FREQUENCY trip status light(s) are OFF.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (6)(a)</b> <b>Critical: <u>N</u></b>	If the OVER-VOLTAGE, UNDER-VOLTAGE, and/or UNDER-FREQUENCY trip status light(s) is/are ON, perform the following (otherwise N/A):
<b>Standard:</b>	Operator will placekeep this step with "N/A."
<b>Evaluator Note:</b>	Since all lights are off, there is no need to cycle trip/reset keylock. (No problem if cycled, just note on comment sheet.)
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (7)</b> <b>Critical: <u>Y</u></b>	Close the EPA-A1 [EPA-B1] circuit breaker and observe that the POWER OUT light turns ON.
<b>Standard:</b>	Operator will close the EPA-A1 [EPA-B1] circuit breaker
<b>Evaluator Note:</b>	There will be negligible amps displayed on the RPS MG Set until control room actions are taken at 1C15 [1C17].
<b>Evaluator Cue:</b>	If asked, CUE the operator that the POWER OUT light is <u>ON</u> .  If asked, CUE the Operator that the OVER-VOLTAGE, UNDER-VOLTAGE, and/or UNDER-FREQUENCY trip status light(s) are OFF.
<b>Performance:</b>	SATISFACTORY _____ UNSATISFACTORY ____
<b>Comments:</b>	



<b>Performance Step:</b> <b>OI 358, 3.2 (8)</b> <b>Critical: <u>N</u></b>	On EPA-A2 [EPA-B2], observe that: <ul style="list-style-type: none"> <li>• POWER IN light is ON</li> <li>• POWER OUT light is OFF</li> </ul>
<b>Standard:</b>	<b>Operator will verify that POWER IN light is observed to be ON and the POWER OUR light is OFF</b>
<b>Evaluator Note:</b>	<b>IF the Operator does NOT close the output breaker on EPA-A1 [EPA-B1] THEN there will be <u>NO</u> lights illuminated on EPA-A2 [EPA-B2].</b>
<b>Evaluator Cue:</b>	<b>If asked, CUE the Operator that the POWER IN light is <u>ON</u>. If asked, CUE the Operator that the other lights are <u>OFF</u>.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (9)</b> <b>Critical: <u>N</u></b>	On EPA-A2 [EPA-B2], verify status of the following lights: <ul style="list-style-type: none"> <li>• OVER-VOLTAGE</li> <li>• UNDER-VOLTAGE</li> <li>• UNDER-FREQUENCY</li> </ul>
<b>Standard:</b>	<b>Operator will verify the status of the following lights on EPA-A2 [EPA-B2]:</b> <ul style="list-style-type: none"> <li>• OVER-VOLTAGE</li> <li>• UNDER-VOLTAGE</li> <li>• UNDER-FREQUENCY</li> </ul>
<b>Evaluator Cue:</b>	<b>If asked, CUE the Operator that the OVER-VOLTAGE, UNDER-VOLTAGE, and/or UNDER-FREQUENCY trip status light(s) are OFF.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (9)(a)</b> <b>Critical: <u>N</u></b>	If the OVER-VOLTAGE, UNDER-VOLTAGE, and/or UNDER-FREQUENCY trip status light(s) is/are ON, perform the following (otherwise N/A):
<b>Standard:</b>	<b>Operator will placekeep this step with "N/A."</b>
<b>Evaluator Note:</b>	<b>Since all lights are off, there is no need to cycle trip/reset keylock. (No problem if cycled, just note on comment sheet.)</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

<b>Performance Step:</b> <b>OI 358, 3.2 (10)</b> <b>Critical: <u>Y</u></b>	Close the EPA-A2 [EPA-B2] circuit breaker and observe that the POWER OUT light turns ON.
<b>Standard:</b>	<b>Operator will close the EPA-A2 [EPA-B2] circuit breaker and observe that the POWER OUT light turns ON.</b>
<b>Evaluator Note:</b>	<b>There will be negligible amps displayed on the RPS MG Set until control room actions are taken at 1C15 [1C17].</b>
<b>Evaluator Cue:</b>	<b>If asked, Cue the operator that the POWER OUT light is <u>ON</u>.</b>  <b>If asked, Cue the Operator that the OVER-VOLTAGE, UNDER-VOLTAGE, and/or UNDER-FREQUENCY trip status light(s) are OFF.</b>
<b>Performance:</b>	<b>SATISFACTORY _____ UNSATISFACTORY ____</b>
<b>Comments:</b>	

**Terminating Cues:** When the Operator states that they will call the Control Room to perform Step 11, CUE that the Operator that the Control Room will finish the rest of this section and that the JPM is completed.

**NOTE:** Ensure the turnover sheet that was given to the examinee is returned to the evaluator.

**Stop Time:** \_\_\_\_\_



212000-01, STARTUP THE "A" [B] RPS MOTOR GENERATOR SET  
FROM THE ESSENTIAL SWITCHGEAR ROOM, Rev. 7

**JPM**  
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Examinee: \_\_\_\_\_

Evaluator: \_\_\_\_\_

☐ RO ☐ SRO ☐ STA ☐ Non-Lic ☐ SRO CERT

Date: \_\_\_\_\_

☐ LOIT RO ☐ LOIT SRO

PERFORMANCE RESULTS:

SAT:

UNSAT:

Remediation required:

YES

NO

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).


**EXAMINER NOTE: ENSURE ALL EXAM MATERIAL IS COLLECTED AND PROCEDURES  
CLEANED, AS APPROPRIATE.**

**EVALUATOR'S SIGNATURE:** \_\_\_\_\_

*NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.*

## TURNOVER SHEET

The initial conditions that I read may not **exactly** match the plant configuration; assume that the conditions that I read you are **the correct** plant conditions.

### INITIAL CONDITIONS:

- The A[B] RPS MG Set was secured for maintenance work
- The maintenance work is complete and the A[B] RPS MG Set is available to be restore to operation
- ALL PRECAUTIONS AND LIMITATIONS HAVE BEEN PREVIOUSLY REVIEWED

### INITIATING CUES (IF APPLICABLE):

- The Control Room Supervisor directs you to perform the in-plant actions to start up the A[B] RPS MG Set in accordance with OI 358, Reactor Protection System, Section 3.2, Startup of A[B] RPS Motor Generator Set 1G-51[1G-61]
- The Control Room Supervisor has provided you with the necessary keys

**NOTE: Ensure the turnover sheet that was given to the examinee is returned to the evaluator.**

**NOTE: This JPM is written to be able to perform either RPS MG Startup, depending on protected equipment.**